



Networking Guide

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Installing the printer on a wireless network

Wireless network compatibility

Your printer contains an IEEE 802.11g wireless print server. Your printer is compatible with IEEE 802.11 b/g/n routers that are Wi-Fi certified. If you are having issues with an n router, verify with your router manufacturer that the current mode setting is compatible with g devices, as this setting varies depending on the router brand/model.

Information you will need to set up the printer on a wireless network

To set up the printer for wireless printing, you need to know:

- The name of your wireless network. This is also known as the *Service Set Identifier (SSID)*.
- If encryption was used to secure your network.
- The security key (either a WEP key or WPA passphrase) that allows other devices to communicate on the network if encryption was used to secure your network.

You can locate your network WEP key or WPA passphrase by accessing your wireless access point or router and checking the security information.

If your wireless access point (wireless router) is using *Wired Equivalent Privacy (WEP)* security, the WEP key should be:

- Exactly 10 or 26 hexadecimal characters. Hexadecimal characters are A–F, a–f, and 0–9.
or
- Exactly 5 or 13 ASCII characters. ASCII characters are letters, numbers, punctuation, and symbols found on a keyboard.

If your wireless access point is using *Wi-Fi Protected Access (WPA)* security, the WPA passphrase should be:

- From 8 to 63 ASCII characters. ASCII characters in a WPA passphrase are case-sensitive.
or
- Exactly 64 hexadecimal characters. Hexadecimal characters are A-F, a-f, and 0-9.

If your wireless network is not using security, then you will not have a security key.

Note: If you do not know the SSID of the network that your computer is connected to, launch the wireless utility of the computer network adapter and look for the network name. If you cannot find the SSID or the security information for your network, see the documentation that came with the wireless access point, or contact your system support person.

Granting access to the software during installation

Third-party applications, including antivirus, security, and firewall programs may alert you about the printer software being installed. For your printer to work properly, you must grant access to the printer software.

Installing the printer on a wireless network

Before you install the printer on a wireless network, make sure that:

- Your wireless network is set up and working properly.
- The computer you are using is connected to the same wireless network where you want to set up the printer.

Using Windows

- 1 Insert the installation software CD.

If the Welcome screen does not appear after a minute, do one of the following:

In Windows Vista

- a Click .
- b In the Start Search box, type `D:\setup.exe`, where **D** is the letter of your CD or DVD drive.

In Windows XP and earlier

- a Click **Start**.
- b Click **Run**.
- c Type `D:\setup.exe`, where **D** is the letter of your CD or DVD drive.

- 2 Follow the instructions on the Welcome screen to set up the printer.

Using Macintosh

- 1 Insert the installation software CD.

If the Welcome screen does not appear after a minute, click the CD icon on the desktop.

- 2 Double-click **Install**.
- 3 Follow the instructions on the Welcome screen to set up the printer.

Installing the printer on other computers

Once the printer is set up on the wireless network, it can be accessed wirelessly by any other computer on the network. However, you will need to install the printer driver on every computer that will access it. You do not need to configure the printer again, although you will need to run the setup software on each computer to install the driver.

Using Windows

- 1 Insert the installation software CD.

- 2 Wait for the Welcome screen to appear.

If the Welcome screen does not appear after a minute, do one of the following:

In Windows Vista

- a Click .
- b In the Start Search box, type `D:\setup.exe`, where **D** is the letter of your CD or DVD drive.

In Windows XP and earlier

- a Click **Start**.
 - b Click **Run**.
 - c Type `D:\setup.exe`, where **D** is the letter of your CD or DVD drive.
- 3 Follow the on-screen instructions for installing a configured printer on a new computer.

Using Macintosh

- 1 Insert the installation software CD.
- 2 Wait for the Welcome screen to appear.
Note: If the Welcome screen does not appear after a minute, click the CD icon on the desktop.
- 3 Double-click **Install**.
- 4 Follow the on-screen instructions for installing a configured printer on a new computer.

Interpreting the colors of the Wi-Fi indicator light

The colors of the Wi-Fi indicator light show the network status of the printer.

- **Off** means one of the following:
 - The printer is turned off or is powering up.
 - The printer is not connected to a wireless network and is in Power Saver mode. In Power Saver mode, the power light pulses on and off.
- **Orange** means one of the following:
 - The printer has not yet been configured for a wireless network.
 - The printer is configured for an ad hoc connection, but it is not currently communicating with another ad hoc device.
- **Blinking orange** means one of the following:
 - The printer is out of the range of the wireless access point (wireless router).
 - The printer is trying to communicate with the wireless access point, but the wireless access point is turned off or not working properly.
 - Either the configured printer or the wireless access point has been turned off and back on, and the printer is trying to establish communications with the network.
 - The wireless settings of the printer may no longer be valid.
- **Green** means that the printer is connected to a wireless network and is ready for use.
- **Blinking green** means that the printer internal print server is being updated.

Special wireless installation instructions

The following instructions apply to customers using a LiveBox, AliceBox, N9UF Box, FreeBox, or Club Internet.

Before you begin

- Make sure your box is wireless-enabled and activated to work on a wireless network. For more information about configuring the box to work wirelessly, see the documentation that came with your box.
- Make sure your box is turned on and that your computer is on and connected to your wireless network.

Adding the printer to your wireless network

- 1 Set up your printer using the setup instructions provided.
- 2 If there is an associate/registration button on the back of your box, press it when you are prompted to select a network.

Note: After pressing the associate/register button, you have five minutes to complete the printer installation.

- 3 Return to the computer screen, and select the network you want to connect to. If you want to use the network shown, select **Connect to <network name>**, and then click **Continue**.

If you do not want to use the network shown:

- a Select **Connect to another network**, and then click **Continue**.
- b Select the network you want to use from the list of available networks, and then click **Continue**.

- 4 Type the Network key, and then click **Continue**.

Note: Your WEP, WPA, or WPA2 key may be obtained from the bottom of the box, the user's guide that came with the box, or from the box Web page. If you have already changed the key for your wireless network, use the key you created.

- 5 Follow the instructions on your screen to complete installation.

Assigning a static IP address

The printer will be assigned an IP address automatically through DHCP on most wireless networks.

If the printer is not automatically assigned an IP address, the installation software will prompt you to manually assign an IP address to the printer. This will occur if there is no server or router capable of automatically assigning DHCP addresses on your network.

For more information, contact your system support person.

Changing wireless settings after installation

To change wireless settings on the printer, such as the configured network, the security key, or other settings:

Using Windows

- 1 Do one of the following:
 - In Windows Vista, click .
 - In Windows XP and earlier, click **Start**.
- 2 Click **All Programs** or **Programs**, and then select the printer program folder from the list.
- 3 Click **Tools** → **Lexmark Wireless Setup Utility**.

Note: If the cable is not already connected, you may be prompted to connect the printer to the computer again using the installation cable as part of the setup process.
- 4 Follow the prompts on the computer screen to reinstall the software, and then make the changes that you want.

Using Macintosh

- 1 From the Finder desktop, double-click the printer folder.
- 2 Double-click **Lexmark Wireless Setup Assistant**.
- 3 Follow the instructions on the computer screen.

Switching between USB and wireless connections (Windows only)

You can change the way you access your printer depending on your needs. The procedures below assume that you have configured your printer for one type of connection. See related topics on troubleshooting specific connection types if you encounter difficulties during configuration.

Using the printer wirelessly

Select the connection type that describes how you currently access your printer:

If the printer is currently set up locally (using USB connection)

- 1 Do one of the following:
 - In Windows Vista, click .
 - In Windows XP and earlier, click **Start**.
- 2 Click **All Programs** or **Programs**, and then select the printer program folder from the list.
- 3 Click **Tools** → **Lexmark Wireless Setup Utility**.
- 4 Follow the instructions on the Welcome screen.

Note: There is no need to remove the USB cable connecting the printer to the computer during wireless configuration.

Using the printer locally (USB)

Select the connection type that describes how you currently access your printer:

If the printer is currently set up for wireless

- 1 Do one of the following:
 - In Windows Vista, click .
 - In Windows XP and earlier, click **Start**.
- 2 Click **All Programs** or **Programs**, and then select the printer program folder from the list.
- 3 Click **Tools** → **Lexmark Wireless Setup Utility**.
- 4 Follow the on-screen instructions, attaching the USB cable when prompted to do so.
- 5 When prompted to choose a wireless network, select **Choose Another Network**.
- 6 Select **Don't use wireless**.
- 7 Follow the on-screen instructions to complete the setup.

Switching between USB and wireless connections (Macintosh only)

You can change the way you access your printer depending on your needs. The procedures below assume that you have configured your printer for one type of connection. See related topics on troubleshooting specific connection types if you encounter difficulties during configuration.

Using the printer wirelessly

If the printer is currently set up locally (using USB connection)

- 1 From the Finder desktop, double-click the printer folder.
- 2 Double-click **Lexmark Wireless Setup Assistant**.
- 3 Follow the on-screen instructions for configuring the printer wirelessly.

Note: There is no need to remove the USB cable connecting the printer to the computer during wireless configuration.

Using the printer locally (USB)

If the printer is currently set up for wireless

- 1 Attach one end of a USB cable to the USB port on the back of the printer. Attach the other end to a USB port on the computer.
- 2 Add the printer:

In Mac OS X version 10.5

- a From the menu bar, click  → **System Preferences**.
- b Click **Print & Fax** under the Hardware section.
- c Click +.
- d Select the printer from the list and click **Add**.

In Mac OS X version 10.4 or earlier

- a From the Finder desktop, choose **Go → Applications → Utilities → Print Center** or **Printer Setup Utility**, depending on the operating system version you are using.
The Printer List dialog appears.
 - b Choose the printer you want to use.
 - c Click **Add**.
The Printer Browser appears.
 - d Select your printer.
 - e Click **Add**.
- 3 A second print queue will be created. Remove the wireless queue if you do not want to switch back to accessing the printer over a wireless connection.

For printers with both wireless and Ethernet network options (selected models only)

Switching between USB, Ethernet, and wireless connections (Windows only)

You can change the way you access your printer depending on your needs. The procedures below assume that you have configured your printer for one type of connection. See related topics on troubleshooting specific connection types if you encounter difficulties during configuration.

Note: The printer supports one active local connection (USB) and one active network connection (Ethernet or wireless) at a time. It is not possible to use both Ethernet and wireless at the same time.

Using the printer wirelessly

Select the connection type that describes how you currently access your printer:

If the printer is currently set up locally (using USB connection)

- 1 Do one of the following:
 - In Windows Vista, click .
 - In Windows XP and earlier, click **Start**.
- 2 Click **All Programs** or **Programs**, and then select the printer program folder from the list.
- 3 Click **Tools → Lexmark Wireless Setup Utility**.
- 4 Follow the instructions on the Welcome screen.

Note: There is no need to remove the USB cable connecting the printer to the computer during wireless configuration.

If the printer is currently set up for Ethernet

- 1 Unplug the Ethernet cable from the printer.
- 2 Place the printer close to the computer you want to use to configure the printer for wireless access.
Note: You will need to connect the printer to the computer with a USB cable. Make sure the printer is close enough to the computer for your USB cable to reach both.
- 3 Do one of the following:
 - In Windows Vista, click .
 - In Windows XP and earlier, click **Start**.
- 4 Click **All Programs** or **Programs**, and then select the printer program folder from the list.
- 5 Click **Tools → Lexmark Wireless Setup Utility**.
- 6 Follow the instructions on the Welcome screen.

Using the printer locally (USB)

Select the connection type that describes how you currently access your printer:

If the printer is currently set up for Ethernet

- 1 Attach one end of a USB cable to the USB port on the back of the printer. Attach the other end to a USB port on the computer.
- 2 Close any "New Hardware Found" screens that appear.
- 3 Select the USB printer (see "Selecting the printer" on page 9).

If the printer is currently set up for wireless

- 1 Do one of the following:
 - In Windows Vista, click .
 - In Windows XP and earlier, click **Start**.
- 2 Click **All Programs** or **Programs**, and then select the printer program folder from the list.

- 3 Click **Tools → Lexmark Wireless Setup Utility**.
- 4 Follow the on-screen instructions, attaching the USB cable when prompted to do so.
- 5 Close any “New Hardware Found” screens.
- 6 When prompted to choose a wireless network, select **Choose Another Network**.
- 7 Select **Don't use wireless**.
- 8 Follow the on-screen instructions to complete the setup.

Using the printer over an Ethernet network

Select the connection type that describes how you currently access your printer:

If the printer is currently set up for wireless

- 1 Plug one end of an Ethernet cable into the printer and the other end into an available port on a switch or wall jack.
- 2 Wait for a minute for the Ethernet network interface to become active and acquire an IP address from the network.
- 3 Select the Network printer (see “Selecting the printer” on page 9).

Note: The wireless interface of the printer is disabled while it is connected to an Ethernet network.

If the printer is currently set up locally (using USB connection)

- 1 Plug one end of an Ethernet cable into the printer and the other end into an available port on a switch or wall jack.
- 2 Insert the software and installation CD into the computer you want to use to configure the printer.
- 3 Follow the on-screen instructions for configuring a printer on an Ethernet network.
- 4 Select the printer (see “Selecting the printer” on page 9).

Note: You will need a USB cable to complete the configuration.

Selecting the printer

- 1 Select the connection. Do one of the following:

In Windows Vista

- a Click .
- b Click **Control Panel**.
- c Under Hardware and Sound, click **Printer**.

In Windows XP

- a Click **Start**.
- b Click **Printers and Faxes**.

In Windows 2000

- a Click **Start**.
 - b Click **Settings → Printers**.
- 2 You will see two printers in the folder.
 - **Lexmark XXXX Series (USB)**
 - **Lexmark XXXX Series (Network)**
where XXXX is the model number of the printer.
 - 3 Select **Set as Default Printer** from the menu.
 - 4 Close the Printers or Printers and Faxes window.

Switching between USB, Ethernet, and wireless connections (Macintosh only)

You can change the way you access your printer, depending on your needs. The procedures below assume that you have configured your printer for one type of connection. See related topics on troubleshooting specific connection types if you encounter difficulties during configuration.

Note: The printer supports one active local connection (USB) and one active network connection (Ethernet or wireless) at a time. It is not possible to use both Ethernet and wireless at the same time.

Use the printer wirelessly

Select the connection type that describes how you currently access your printer:

Printer currently set up locally (using USB connection)

- 1 From the Finder desktop, double-click the printer folder.
- 2 Double-click **Lexmark Wireless Setup Assistant**.
- 3 Follow the on-screen instructions for configuring the printer wirelessly.

Note: There is no need to remove the USB cable connecting the printer to the computer during wireless configuration.

Printer currently set up for Ethernet

- 1 Unplug the Ethernet cable from the printer.
- 2 Place the printer close to the computer you want to use to configure the printer for wireless access.

Note: You will need to connect the printer to the computer with a USB cable. Make sure the printer is close enough to the computer for your USB cable to reach both.
- 3 From the Finder desktop, double-click the printer folder.
- 4 Double-click **Lexmark Wireless Setup Assistant**.
- 5 Follow the on-screen instructions for configuring the printer wirelessly.

Use the printer locally (USB)

Select the connection type that describes how you currently access your printer:

Printer currently set up for Ethernet

- 1 Attach one end of a USB cable to the USB port on the back of the printer. Attach the other end to a USB port on the computer.
- 2 Add the printer (see “Add the printer” on page 10).
- 3 A second print queue will be created. Remove the Ethernet queue if you do not want to switch back to accessing the printer over an Ethernet connection.

Printer currently set up for wireless

- 1 Attach one end of a USB cable to the USB port on the back of the printer. Attach the other end to a USB port on the computer.
- 2 Add the printer (see “Add the printer” on page 10).
- 3 A second print queue will be created. Remove the wireless queue if you do not want to switch back to accessing the printer over a wireless connection.

Use the printer over an Ethernet network

Select the connection type that describes how you currently access your printer:

Printer currently set up for wireless

- 1 Plug one end of an Ethernet cable into the printer and the other end into an available port on a switch or wall jack.
- 2 Wait for a minute for the Ethernet network interface to become active and acquire an IP address from the network.
- 3 Add the printer (see “Add the printer” on page 10).
- 4 A second print queue will be created. Remove the wireless queue if you do not want to switch back to accessing the printer over a wireless connection.

Note: The wireless interface of the printer is disabled while it is connected to an Ethernet network.

Printer currently set up locally (using USB connection)

- 1 Plug one end of an Ethernet cable into the printer and the other end into an available port on a switch or wall jack.
- 2 Insert the software and installation CD into the computer you want to use to configure the printer.
- 3 Follow the on-screen instructions for configuring a printer on an Ethernet network.

Note: You will need a USB cable to complete the configuration.

Add the printer

In Mac OS X version 10.5

- 1 From the menu bar, click  → **System Preferences**.
- 2 Click **Print & Fax** under the Hardware section.
- 3 Click +.
- 4 Select the printer from the list and click **Add**.

In Mac OS X version 10.4 or earlier

- 1 From the Finder desktop, choose **Go → Applications → Utilities → Print Center** or **Printer Setup Utility**, depending on the operating system version you are using.
The Printer List dialog appears.
- 2 Choose the printer you want to use.
- 3 Click **Add**.
The Printer Browser appears.
- 4 Select your printer.
- 5 Click **Add**.

Advanced wireless setup

Creating an ad hoc wireless network

The recommended way to set up your wireless network is to use a wireless access point (wireless router). A network set up this way is called an *infrastructure network*. If you have an infrastructure network, you should configure the printer for use on that network.

Note: The printer can communicate on only one wireless network at a time. Configuring the printer for an ad hoc wireless network will keep it from working on any other wireless network, either ad hoc or infrastructure.

You can set up an ad hoc network if you:

- Do not have an access point or wireless router
- Do not already have a wireless network (but do have a wireless adapter for your computer)
- Want to set up a standalone network between the printer and a computer with a wireless network adapter

In Windows Vista

- 1 Click .
- 2 Click **Control Panel**.
- 3 Click **Network and Internet**.
- 4 Under Network and Sharing Center, click **Connect to a Network**.
- 5 In the Connect to a Network dialog, click **Set up a wireless ad-hoc (computer-to-computer) network**, and then click **Next**.
- 6 Follow the instructions in the “Set up a wireless ad hoc network” wizard. As part of the setup:
 - a Create a network name or SSID for the network between the computer and your printer.
 - b Write down the name of your network. Be sure to use the exact spelling and capitalization.
 - c Go to the Security Type list, select **WEP**, and then create a WEP key.

WEP keys must be:

 - Exactly 10 or 26 hexadecimal characters. Hexadecimal characters are A-F, a-f, and 0-9.
or
 - Exactly 5 or 13 ASCII characters. ASCII characters are letters, numbers, and symbols found on a keyboard
 - d Write down the password for your network. Be sure to use the exact spelling and capitalization.Windows Vista will enable the ad hoc network for you. It will appear in the “Connect to a network” dialog under “Available networks,” indicating that the computer is configured for the ad hoc network.
- 7 Close the Windows Control Panel and any remaining windows.

- 8 Insert the installation software CD, and follow the directions for wireless installation.

Note: Do not connect the installation or network cables until instructed to do so by the setup software.
- 9 When the available networks are displayed, provide the network name and the security information you created in step 6. The installer will configure the printer for use with your computer.
- 10 Store a copy of your network name and security information in a safe place for future reference.

In Windows XP

- 1 Click **Start**.
- 2 Click **Control Panel**.
- 3 Click **Network and Internet Connections**.
- 4 Click **Network Connections**.
- 5 Right-click the icon for your wireless network connection.
- 6 Click **Enable**, if it appears in the pop-up menu.

Note: If Enable does not appear, your wireless connection is already enabled.
- 7 Right-click the **Wireless Network Connection** icon.
- 8 Click **Properties**.
- 9 Click the **Wireless Networks** tab.

Note: If the Wireless Networks tab does not appear, your computer has third-party software that controls your wireless settings. You must use that software to set up the ad hoc wireless network. For more information, see the documentation for the third-party software to learn how to create an ad hoc network.
- 10 Select the **Use Windows to configure my wireless network settings** check box.
- 11 Under Preferred Networks, delete any existing networks.
 - a Select the network to be removed.
 - b Click **Remove** to delete the network from the list.
- 12 Click **Add** to create an ad hoc network.
- 13 In the Network Name (SSID) box, type the name you want to give your wireless network.
- 14 Write down the network name you chose so you can refer to it when running the wireless setup. Be sure to use the exact spelling and capitalization.
- 15 If Network Authentication appears in the list, select **Open**.
- 16 In the “Data encryption” list, select **WEP**.
- 17 If necessary, clear the “The key is provided for me automatically” check box.
- 18 In the Network Key box, type in a WEP key.
- 19 Write down the WEP key you chose so you can refer to it when running the wireless setup. Make sure you copy it down exactly, including any capital letters.

- 20 In the "Confirm network key" box, type the same WEP key.
- 21 Select **This is a computer-to-computer (ad hoc) network; wireless access points are not used.**
- 22 Click **OK** twice to close the two open windows.
- 23 It may take a few minutes for your computer to recognize the new settings. To check on the status of your network:
 - a Right-click the **Wireless Network Connections** icon.
 - b Select **View Available Wireless Networks**.
 - If the network is listed but the computer is not connected, select the ad hoc network and then click **Connect**.
 - If the network does not appear, wait a minute and then click **Refresh network list**.
- 24 Insert the installation software CD, and follow the directions for wireless installation.

Note: Do not connect the installation or network cables until instructed to do so by the setup software.
- 25 When the available networks are displayed, provide the network name and the security information you created beginning in step 13. The installer will configure the printer for use with your computer.
- 26 Store a copy of your network name and security information in a safe place for future reference.

In Windows 2000

- Refer to the documentation that shipped with your wireless network adapter for information on configuring an ad hoc network with Windows 2000.

For Macintosh users

- 1 Create a network name.

In Mac OS X version 10.5

- a From the Finder desktop, click  → **System Preferences**.
- b Click **Network**.
- c Click **AirPort**.

In Mac OS X version 10.4 and earlier

- a From the Finder desktop, click **Go** → **Applications**.
 - b From the Applications folder, double-click **Internet Connect**.
 - c From the toolbar, click **AirPort**.
- 2 From the Network menu, click **Create Network**.
 - 3 Create a name for the ad hoc network, and then click **OK**.

Note: Store the network name and password in a safe place for future reference.

Adding a printer to an existing ad hoc wireless network

Note: The printer can communicate on only one wireless network at a time. Configuring the printer for an ad hoc wireless network will remove it from any other wireless network, either ad hoc or infrastructure, for which it is configured.

Using Windows

- 1 Do one of the following:
 - In Windows Vista, click .
 - In Windows XP and earlier, click **Start**.
- 2 Click **All Programs** or **Programs**, and then select the printer program folder from the list.
- 3 Click **Lexmark Wireless Setup Utility**.
- 4 Follow the instructions on the Welcome screen.

Using Macintosh

- 1 From the Finder desktop, double-click the printer folder.
- 2 Double-click **Lexmark Wireless Setup Assistant**.
- 3 Follow the instructions on the Welcome screen.

Using WPS (Wi-Fi Protected Setup)

Wi-Fi Protected Setup (WPS) is a method of configuring devices on a secure wireless network using fewer steps than in most other methods. The printer supports WPS and can be configured for a wireless access using WPS. In order to use WPS to configure the printer, the wireless router must support WPS.

Using a WPS-capable router

If your router supports WPS, you can add the printer to your wireless network using the method supported by your router. Refer to your router documentation for instructions.

Using Windows Vista

For information on using Windows Vista to set up the printer using WPS, refer to the documentation that came with the operating system.

Note: Lexmark recommends that you use the installation software on the CD that shipped with the printer to configure it for wireless access.

Troubleshooting a printer on a wireless network

Wireless troubleshooting checklist

Before beginning to troubleshoot the wireless printer, verify the following:

- The power supply is connected to the printer, and  is on.
- Your SSID is correct.
Print a network setup page to verify the SSID the printer is using.
If you are not sure if your SSID is correct, run the wireless setup again.
- Your WEP key or WPA passphrase is correct (if your network is secure).
Log into the wireless access point (wireless router) and check the security settings.
A security key is like a password. All devices on the same wireless network using WEP, WPA, or WPA2 share the same security key.
If you are not sure if your security information is correct, run the wireless setup again.
- The wireless network is working properly.
Try accessing other computers on your wireless network.
If your network has Internet access, try connecting to the Internet over a wireless connection.
- The printer is within the range of the wireless network.
For most networks, the printer should be within 100 feet (30 meters) of the wireless access point (wireless router).
- The Wi-Fi indicator light is lit.
- The printer driver is installed on the computer from which you are performing a task.
- The correct printer port is selected.
- The computer and printer are both connected to the same wireless network.
- The printer is located away from obstacles or electronic devices that could interfere with the wireless signal.
Make sure the printer and wireless access point are not separated by poles, walls, or support columns containing metal or concrete.
Many devices can interfere with the wireless signal, including baby monitors, motors, cordless phones, security system cameras, other wireless networks, and some Bluetooth devices.

Printing a network setup page

A network setup page lists the configuration settings of the printer, including the IP address and MAC address. This information is very helpful when troubleshooting the network configuration of the printer.

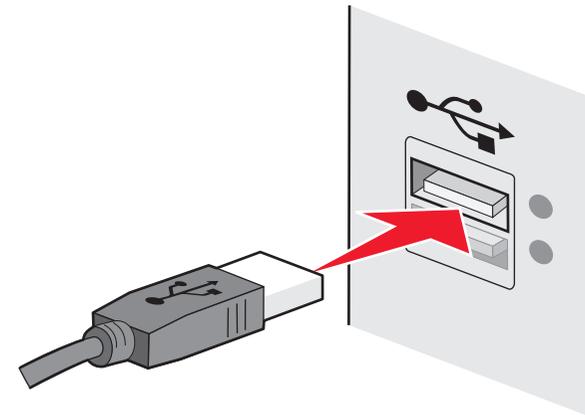
For more information on printing a network setup page, refer to the *User's Guide* on the installation software CD.

Wireless configuration does not continue after the USB cable is attached

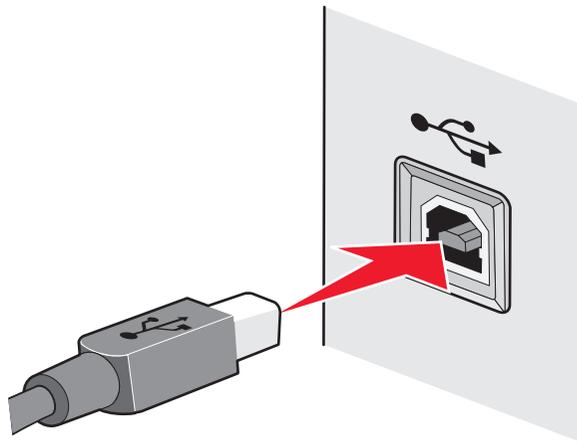
Check the USB cable

If the configuration software does not allow you to continue configuring your printer wirelessly after you attach the USB cable, there may be a problem with the cable. Try one or more of the following:

- Make sure that the USB cable is not damaged. If there is any visible damage to the USB cable, try using a new one.
- Attach the cable directly to the computer and the printer. Hubs, switch boxes, and docking stations can sometimes interfere with the USB connection.
- Make sure the USB cable is correctly attached.
 - 1 Attach the large, rectangular connector to any USB port on your computer. USB ports may be on the front or the back of the computer, and may be horizontal or vertical.



- 2 Attach the small, square connector to the printer.



Why isn't my printer in this list?

When you are attempting to set up a wireless printer on another computer, the printer may not appear in the list of printers available on your network. If this happens, check the following:

MAKE SURE THAT YOUR COMPUTER AND PRINTER ARE CONNECTED TO THE SAME WIRELESS NETWORK

The printer may not be on the same wireless network as the computer. The SSID of the printer must match the SSID of the computer, if the computer is already connected to the wireless network.

- 1 Obtain the SSID of the network that the computer is connected to.
 - a Type the IP address of your wireless access point (wireless router) into the address field of your Web browser.

If you do not know the IP address of the wireless access point:

- 1 Do one of the following:

In Windows Vista

- a Click .
- b Click **All Programs** → **Accessories**.
- c Click **Command Prompt**.

In Windows XP and earlier

- a Click **Start**.
- b Click **All Programs** or **Programs** → **Accessories** → **Command Prompt**.

- 2 Type `ipconfig`.

- 3 Press **Enter**.

- The "Default Gateway" entry is typically the wireless access point.
- The IP address appears as four sets of numbers separated by periods, such as 192.168.2.134.

- a Type the user name and password of the router when prompted.
- b Click **OK**.
- c On the main page, click **Wireless** or any other selection where settings are stored. The SSID will be displayed.
- d Write down the SSID.

Note: Make sure you copy it exactly, including any capital letters.

- 2 Print the printer network setup page.

In the Wireless section, look for **SSID**.

- 3 Compare the SSID of the computer and SSID of the printer.

If the SSIDs are the same, then the computer and the printer are connected to the same wireless network.

If the SSIDs are not the same, then run the Lexmark Wireless Setup Utility again to set up the printer on the wireless network used by the computer.

MAKE SURE THAT THE COMPUTER IS NOT CONNECTED TO A VIRTUAL PRIVATE NETWORK (VPN)

Most Virtual Private Networks allow computers to communicate with only the VPN and no other network at the same time. Disconnect from the VPN before installing the driver on the computer or before running the wireless setup on the computer.

To check if the computer is currently connected to a VPN, open your VPN Client software and check your VPN connections. If you do not have a VPN Client software installed, check the connections manually using the Windows VPN Client.

If you would like to have the ability to connect to your local network and to a VPN at the same time, the system support person for the VPN must enable split tunneling. Be aware that some organizations will not allow split tunneling due to security or technical concerns.

Removing and reinstalling the software

If the printer is not functioning properly, or if a communications error message appears when you try to use the printer, then you may need to remove and reinstall the printer software.

Using Windows

- 1 Do one of the following:
 - In Windows Vista, click .
 - In Windows XP and earlier, click **Start**.

- 2 Click **All Programs** or **Programs**, and then select the printer program folder from the list.
- 3 Select **Uninstall**.
- 4 Follow the instructions on the computer screen to remove the printer software.
- 5 Restart the computer before reinstalling the printer software.
- 6 Click **Cancel** on all New Hardware Found screens.
- 7 Insert the installation CD, and then follow the instructions on the computer screen to reinstall the software.

If the install screen does not appear automatically after you restart your computer, do one of the following:

In Windows Vista

- a Click .
- b In the Start Search box, type `D:\setup.exe`, where **D** is the letter of your CD or DVD drive.

In Windows XP and earlier

- a Click **Start**.
- b Click **Run**.
- c Type `D:\setup.exe`, where **D** is the letter of your CD or DVD drive.

Using Macintosh

- 1 Close all open software applications.
- 2 From the Finder desktop, double-click the printer folder.
- 3 Double-click the **Uninstaller** icon.
- 4 Follow the instructions on the computer screen to remove the printer software.
- 5 Restart the computer before reinstalling the printer software.
- 6 Insert the installation CD, and then follow the instructions on the computer screen to reinstall the software.

If the software still does not install correctly, visit our Web site at www.lexmark.com to check for the latest software.

- 1 In all countries or regions except the United States, select your country or region.
- 2 Click the links for drivers or downloads.
- 3 Select your printer family.
- 4 Select your printer model.
- 5 Select your operating system.
- 6 Select the file that you want to download, and then follow the instructions on the computer screen.

Cannot print over wireless network

If you encountered problems while installing, or if your printer does not appear in the printers folder or as a printer option when sending a print job, you can try uninstalling and reinstalling the software.

These are possible solutions. Try one or more of the following:

MAKE SURE YOUR COMPUTER IS CONNECTED TO YOUR WIRELESS ACCESS POINT (WIRELESS ROUTER)

- See if you have access to the Internet by opening your Web browser and accessing any site.
- If there are other computers or resources on your wireless network, check to see if you can access them from your computer.

MOVE THE COMPUTER AND/OR PRINTER CLOSER TO THE WIRELESS ROUTER

Although the possible distance between devices in 802.11b or 802.11g networks is 300 feet, the maximum range for optimal performance is generally 100–150 feet.

MOVE YOUR ACCESS POINT TO MINIMIZE INTERFERENCE

There may be temporary interference from other devices such as microwave ovens or other appliances, cordless phones, baby monitors, and security system cameras. Make sure your access point is not positioned too closely to these devices.

CHECK WHETHER THE PRINTER IS ON THE SAME WIRELESS NETWORK AS THE COMPUTER

Print a network setup page. Refer to the documentation that came with your printer for details on printing a network setup page.

Make sure the SSID the printer is using matches the wireless network SSID. If you are not sure how to find the network SSID, use one of the following:

Using Windows

- 1 Type the IP address of the wireless access point in the address field of your Web browser.

If you do not know the IP address of the wireless access point:

- a Do one of the following:

In Windows Vista

- 1 Click .
- 2 Click **All Programs** → **Accessories**.
- 3 Click **Command Prompt**.

In Windows XP and earlier

- 1 Click **Start**.
- 2 Click **All Programs** or **Programs** → **Accessories** → **Command Prompt**.
- b Type `ipconfig`.
- c Press **Enter**.
 - The “Default Gateway” entry is typically the wireless access point.
 - The IP address appears as four sets of numbers separated by periods, such as 192.168.0.100. Your IP address might also start with the numbers 10 or 169. This is determined by your operating system or wireless network software.
- 2 Type your user name and password for the wireless access point when prompted.
- 3 Click **OK**.
- 4 On the main page, click **Wireless** or another selection where settings are stored. The SSID appears.
- 5 Write down the SSID, security type, and the WEP key/WPA passphrase (if shown).

Note: Make sure you copy the network information down exactly, including any capital letters.
- 6 Store the SSID and the WEP key or WPA passphrase in a safe place for future reference.

Using Macintosh with an AirPort base station

In Mac OS X version 10.5

- 1 From the menu bar, click  → **System Preferences**.
- 2 Click **Network**.
- 3 Click **AirPort**.

The SSID of the network the computer is connected to is displayed in the Network Name pop-up menu.
- 4 Write down the SSID.

In Mac OS X version 10.4 and earlier

- 1 From the menu bar, click **Go** → **Applications**.
- 2 From the Applications folder, double-click **Internet Connect**.
- 3 From the toolbar, click **AirPort**.

The SSID of the network the computer is connected to is displayed in the Network pop-up menu.
- 4 Write down the SSID.

Using Macintosh with a wireless access point

- 1 Type the IP address of the wireless access point in the address field of your Web browser and continue to Step 2.

If you do not know the IP address of the wireless access point, then do the following:

In Mac OS X version 10.5

- a From the menu bar, click  → **System Preferences**.
- b Click **Network**.
- c Click **AirPort**.
- d Click **Advanced**.
- e Click **TCP/IP**.

The “Router” entry is typically the wireless access point.

In Mac OS X version 10.4 and earlier

- a From the menu bar, click  → **System Preferences**.
- b Click **Network**.
- c From the Show pop-up menu, select **Airport**.
- d Click **TCP/IP**.

The “Router” entry is typically the wireless access point.
- 2 Type your user name and password when prompted.
- 3 Click **OK**.
- 4 On the main page, click **Wireless** or another selection where settings are stored. The SSID will be displayed.
- 5 Write down the SSID, security type and the WEP key/WPA passphrase (if shown).

Notes:

 - Make sure you copy the network information down exactly, including any capital letters.
 - Store the SSID and the WEP key or WPA passphrase in a safe place for future reference.

CHECK YOUR WEP KEY OR WPA PASSPHRASE

If your wireless access point is using Wireless Equivalent Privacy (WEP) security, the WEP key should be:

- Exactly 10 or 26 hexadecimal characters. Hexadecimal characters are A-F, a-f, and 0-9.
- or*
- Exactly 5 or 13 ASCII characters. ASCII characters are letters, numbers, and symbols found on a keyboard. ASCII characters in a WEP key are case-sensitive.

If your wireless access point is using Wi-Fi Protected Access (WPA) security the WPA passphrase should be:

- From 8 to 63 ASCII characters. ASCII characters in a WPA passphrase are case-sensitive.
- or*
- Exactly 64 hexadecimal characters. Hexadecimal characters are A-F, a-f, and 0-9.

Note: If you do not know this information, see the documentation that came with the wireless network, or contact the person who set up your wireless network.

DISCONNECT FROM VPN SESSION

When you are connected to another network through a VPN connection, you will not be able to access the printer over your wireless network. End your VPN session and try printing again.

CHECK YOUR ADVANCED SECURITY SETTINGS

- If you are using MAC address filtering to limit access to your wireless network, you must add the printer MAC address to the list of addresses allowed to connect to the wireless access point.
- If you set the wireless access point to issue a limited number of IP addresses, you must change this so that the printer can be added.

Note: If you do not know how to make these changes, see the documentation that came with the wireless network, or contact the person who set up your wireless network.

Cannot print and there is a firewall on the computer

Third-party (non-Microsoft) firewalls can interfere with wireless printing. If the printer and computer are configured correctly, and the wireless network is working, but the printer will not print wirelessly, a firewall could be the problem. If there is a firewall (other than the Windows firewall) on the computer, try one or more of the following:

- Update the firewall using the most recent update available from the manufacturer. Refer to the documentation that came with your firewall for instructions on how to do this.
- If programs request firewall access when you install the printer or try to print, make sure you allow those programs to run.
- Temporarily disable the firewall and install the wireless printer on the computer. Re-enable the firewall when you have completed the wireless installation.

Wi-Fi indicator light is not lit

CHECK POWER

Make sure the  light is on.

Wi-Fi indicator light is green but the printer does not print (Windows only)

If you have completed the configuration for wireless printing and all of the settings appear to be correct, but the printer does not print, try one or more of the following:

ALLOW THE WIRELESS INSTALLATION TO COMPLETE

Do not attempt to print, remove the installation CD, or detach the installation cable until you see the Wireless Setup Successful screen.

ENABLE THE PRINTER

Confirm that the printer is enabled.

- 1 Do one of the following:

In Windows Vista

- a Click .
- b Click **Control Panel**.
- c Under Hardware and Sound, click **Printer**.

In Windows XP

- a Click **Start**.
- b Click **Printers and Faxes**.

In Windows 2000

- a Click **Start**.
- b Click **Settings** → **Printers**.

- 2 Right-click the new printer. From the menu, select **Use Printer Online**.

- 3 Close the Printers or Printers and Faxes window and try printing again.

SELECT THE WIRELESS PRINTER

You may need to select the wireless printer from your computer to use the printer wirelessly.

- 1 Do one of the following:

In Windows Vista

- a Click .
- b Click **Control Panel**.
- c Under Hardware and Sound, click **Printer**.

In Windows XP

- a Click **Start**.
- b Click **Printers and Faxes**.

In Windows 2000

- a Click **Start**.
 - b Click **Settings → Printers**.
- 2 Right-click the printer named **Lexmark XXXX Series (Network)**, where XXXX is the model number of your printer.
 - 3 Select **Use Printer Online** from the menu.
 - 4 Close the Printers or Printers and Faxes window and try printing again.

SELECT THE WIRELESS PORT

If you have previously set up your printer as a locally attached printer, you may need to select the wireless printer to use the printer wirelessly.

- 1 Do one of the following:

In Windows Vista

- a Click .
- b Click **Control Panel**.
- c Under Hardware and Sound, click **Printer**.

In Windows XP

- a Click **Start**.
- b Click **Printers and Faxes**.

In Windows 2000

- a Click **Start**.
 - b Click **Settings → Printers**.
- 2 Right-click the printer, and then select **Properties** from the menu.
 - 3 Click the **Ports** tab.
 - 4 Locate the selected port. The selected port has a check beside it in the Port column.
 - 5 If the Description column of the selected port indicates that it is a USB port, scroll through the list and select the port with Printer Port in the Description column.
 - 6 Click **OK**, and then try to print again.

Wi-Fi indicator light is blinking orange during installation (Windows only)

When the Wi-Fi indicator light is blinking orange, it indicates that the printer has been set up for wireless networking but cannot connect to the network for which it has been configured. The printer may be unable to join the network because of interference, its distance from the wireless access point (wireless router), or until its settings are changed.

These are possible solutions. Try one or more of the following:

MAKE SURE THE ACCESS POINT IS ON

Check the access point and, if necessary, turn it on.

MOVE YOUR ACCESS POINT TO MINIMIZE INTERFERENCE

There may be temporary interference from other devices such as microwave ovens or other appliances, cordless phones, baby monitors, and security system cameras. Make sure your access point is not positioned too closely to these devices.

TRY ADJUSTING EXTERNAL ANTENNAS

Antennas usually work best if they are pointing straight up. You may find that reception improves if you experiment with different angles for the printer and/or wireless access point antennas.

MOVE YOUR PRINTER

Move the printer closer to the access point. Although the possible distance between devices in 802.11b or 802.11g networks is 300 feet, the maximum range for optimal performance is generally 100–150 feet.

You can find the signal strength of the network on the network setup page.

CHECK SECURITY KEYS

If you are using WEP security

A valid WEP key is:

- Exactly 10 or 26 hexadecimal characters. Hexadecimal characters are A–F, a–f, and 0–9.
or
- Exactly 5 or 13 ASCII characters. ASCII characters are letters, numbers, and symbols found on a keyboard.

If you are using WPA security

A valid WPA passphrase is:

- From 8 to 63 ASCII characters. ASCII characters in a WPA passphrase are case-sensitive.
or
- Exactly 64 hexadecimal characters. Hexadecimal characters are A-F, a-f, and 0-9.

If your wireless network is not using security, then you will not have a security key. Using a wireless network with no security is not recommended because it can allow intruders to use your network resources without your consent.

CHECK MAC ADDRESS

If your network uses MAC address filtering, make sure that you include the MAC address of the printer in the MAC address filter list. This will allow the printer to operate on the network. For more information, see “How do I find the MAC address?” on page 29.

PING THE ACCESS POINT TO MAKE SURE THE NETWORK IS WORKING

- 1 If you do not already know it, find the IP address of the access point.
 - a Do one of the following:

In Windows Vista

- 1 Click .
- 2 Click **All Programs → Accessories**.
- 3 Click **Command Prompt**.

In Windows XP and earlier

- 1 Click **Start**.
- 2 Click **All Programs** or **Programs → Accessories → Command Prompt**.

b Type `ipconfig`.

c Press **Enter**.

- The “Default Gateway” entry is typically the access point.
- The IP address appears as four sets of numbers separated by periods, such as 192.168.0.100. Your IP address might also start with the numbers 10 or 169. This is determined by your operating system or wireless network software.

- 2 Ping the access point.

a Do one of the following:

In Windows Vista

- 1 Click .
- 2 Click **All Programs → Accessories**.
- 3 Click **Command Prompt**.

In Windows XP and earlier

1 Click **Start**.

2 Click **All Programs** or **Programs → Accessories → Command Prompt**.

b Type `ping` followed by a space and the IP address of the wireless access point. For example:
`ping 192.168.0.100`

c Press **Enter**.

- 3 Check to see whether the access point responds:

- If the access point responds, you will see several lines appear that start with “Reply from.” It is possible that the printer did not connect to the wireless network. Turn off and then restart the printer to try to connect again.
- If the access point does not respond, it will take several seconds and then you will see “Request timed out.”

Try the following:

a Do one of the following:

In Windows Vista

- 1 Click .
- 2 Click **Control Panel**.
- 3 Click **Network and Internet**.
- 4 Click **Network and Sharing Center**.

In Windows XP and earlier

- 1 Click **Start**.
- 2 Click **Control Panel**.
- 3 Click **Network Connection**.

b Select the appropriate connection from the ones shown.

Note: If the computer is connected to the access point by an Ethernet cable, the connection may not include the word “wireless” in its name.

c Right-click the connection, and then click **Repair**.

RUN THE WIRELESS SETUP AGAIN

If your wireless settings have changed, you must run the printer wireless setup again. Some reasons your settings may have changed include your having manually changed your WEP or WPA keys, channel, or other network settings; or the access point having been reset to factory defaults.

Running the wireless setup again can also resolve issues due to misconfigurations that occurred when configuring the printer for wireless access.

Notes:

- If you change network settings, change them on all the network devices before changing them for the access point.
- If you have already changed the wireless network settings on your access point, then you must change the settings on all the other network devices before you can see them on the network.

1 Do one of the following:

- In Windows Vista, click .
- In Windows XP and earlier, click **Start**.

2 Click **All Programs** or **Programs**, and then select the printer program folder from the list.

3 Click **Tools** → **Lexmark Wireless Setup Utility**.

Note: You may be prompted to connect the printer to the computer again using the installation cable as part of the setup process.

4 Follow the instructions on the computer screen.

Wi-Fi indicator light is blinking orange during installation (Macintosh only)

When the Wi-Fi indicator light is blinking orange, it indicates that the printer has been set up for wireless networking but cannot connect to the network for which it has been configured. The printer may be unable to join the network because of interference, its distance from the wireless access point (wireless router), or until its settings are changed.

These are possible solutions. Try one or more of the following:

MAKE SURE THE WIRELESS ACCESS POINT IS ON

Check the wireless access point and, if necessary, turn it on.

MOVE YOUR WIRELESS ACCESS POINT TO MINIMIZE INTERFERENCE

There may be temporary interference from other devices such as microwave ovens or other appliances, cordless phones, baby monitors, and security system cameras. Make sure the wireless access point is not positioned too closely to these devices.

TRY ADJUSTING EXTERNAL ANTENNAS

Antennas usually work best if they are pointing straight up. You may find that reception improves if you experiment with different angles for the printer and/or wireless access point antennas.

MOVE YOUR PRINTER

Move the printer closer to the wireless access point. Although the possible distance between devices in 802.11b or 802.11g networks is 300 feet, the effective range for optimal performance is generally 100–150 feet.

You can find the signal strength of the network on the network setup page.

CHECK SECURITY KEYS

If you are using WEP security

A valid WEP key is:

- Exactly 10 or 26 hexadecimal characters. Hexadecimal characters are A–F, a–f, and 0–9.
or
- Exactly 5 or 13 ASCII characters. ASCII characters are letters, numbers, and symbols found on a keyboard.

If you are using WPA security

A valid WPA passphrase is:

- From 8 to 63 ASCII characters. ASCII characters in a WPA passphrase are case-sensitive.
or
- Exactly 64 hexadecimal characters. Hexadecimal characters are A–F, a–f, and 0–9.

If your wireless network is not using security, then you will not have a WEP key or WPA passphrase. Using a wireless network with no security is not recommended because it can allow intruders to use your network resources without your consent.

CHECK THE MAC ADDRESS

If your network uses MAC address filtering, make sure that you include the MAC address of the printer in the MAC address filter list. This will allow the printer to operate on the network.

PING THE ACCESS POINT TO MAKE SURE THE NETWORK IS WORKING

- 1 Check the AirPort status and, if you do not already know it, find the IP address of the wireless access point.

In Mac OS X version 10.5

- a From the menu bar, click  → **System Preferences**.
- b Click **Network**.
- c Click **AirPort**.

Check Status. It should be on. If it is off, click **Turn AirPort On**.

The AirPort status indicator should also be green. Green means the port is active (turned on) and connected.

Notes:

- Yellow means the port is active but is not connected.
- Red means the port has not been configured.

d Click **Advanced**.

e Click **TCP/IP**.

- The IP address appears as four sets of numbers separated by periods, such as 192.168.0.100.
- The "Router" entry is typically the wireless access point.

In Mac OS X version 10.4 and earlier

a Click  → **System Preferences**.

b Click **Network**.

c If necessary, select **Network Status** in the Show pop-up menu.

The AirPort status indicator should be green. Green means the port is active (turned on) and connected.

Notes:

- Yellow means the port is active but is not connected.
- Red means the port has not been configured.

d From the Show pop-up menu, select **AirPort**.

e Click **TCP/IP**.

- The IP address appears as four sets of numbers separated by periods, such as 192.168.0.100.
- The "Router" entry is typically the wireless access point.

2 Ping the wireless access point.

a From the menu bar, click **Go → Utilities**.

b Double-click **Network Utility**.

c Click the **Ping** tab.

d Type the IP address of the wireless access point in the network address field. For example:
`10.168.0.100`

e Click **Ping**.

3 If the wireless access point responds, you will see several lines that display the number of bytes received from the access point. This ensures that your computer is connected to the access point. If the wireless access point does not respond, nothing is displayed. You can use Network Diagnostics to help resolve the problem.

RUN THE WIRELESS SETUP AGAIN

1 From the Finder desktop, double-click the printer folder.

2 Double-click **Lexmark Wireless Setup Assistant**.

3 Follow the instructions on the computer screen.

Wi-Fi indicator light is still orange

When the Wi-Fi indicator light is orange, it may indicate that the printer is:

- Not configured in infrastructure mode
- Waiting to make an ad hoc connection to another wireless device

The printer may be unable to join the network because of interference, its distance from the wireless access point (wireless router), or until its settings are changed.

These are possible solutions. Try one or more of the following:

CHECK NETWORK NAME

Make sure your network does not have the same name as another network near you. For example, if you and your neighbor both use a manufacturer's default network name, your printer could be connecting to your neighbor's network.

If you are not using a unique network name, consult the documentation for your wireless access point (wireless router) to learn how to set a network name.

If you set a new network name, you must reset the printer and computer SSID to the same network name.

CHECK SECURITY KEYS

If you are using WEP security

A valid WEP key is:

- Exactly 10 or 26 hexadecimal characters. Hexadecimal characters are A–F, a–f, and 0–9.

or

- Exactly 5 or 13 ASCII characters. ASCII characters are letters, numbers, and symbols found on a keyboard.

If you are using WPA security

A valid WPA passphrase is:

- From 8 to 63 ASCII characters. ASCII characters in a WPA passphrase are case-sensitive.

or

- Exactly 64 hexadecimal characters. Hexadecimal characters are A–F, a–f, and 0–9.

If your wireless network is not using security, then you will not have a security key. Using a wireless network with no security is not recommended because it can allow intruders to use your network resources without your consent.

MOVE YOUR PRINTER

Move the printer closer to the wireless access point (wireless router). Although the possible distance between devices in 802.11b or 802.11g networks is 300 feet, the maximum range for optimal performance is generally 100–150 feet.

You can find the strength of the network signal on the printer network setup page.

CHECK MAC ADDRESS

If your network uses MAC address filtering, make sure that you include the MAC address of the printer in the MAC address filter list. This will allow the printer to operate on the network.

Wireless print server not installed

You may see a message during installation indicating that the printer does not have a wireless print server installed. If you are sure the printer is capable of wireless printing, try the following:

CHECK POWER

Make sure the  light is on.

“Communication not available” message displays when printing wirelessly

If you are using a laptop and have power saving settings enabled, you may see the **Communication not available** message on your computer screen when you attempt to print wirelessly. This can occur if the laptop hard drive has powered down.

If you see this message, wait a few seconds and then try to print again. The laptop and printer require a few seconds to power up again and reattach to the wireless network.

If you see this message again after you have waited long enough for the printer and the laptop to attach to the network, there may be a problem with your wireless network. Make sure that the laptop and printer have both received IP addresses. For more information on locating IP addresses, refer to “How do I locate IP addresses?” on page 30.

If the printer and/or the laptop does not have an IP address, or if either has an address of 169.254.x.y (where x and y are any two numbers between 0 and 255):

- 1 Shut down the device that does not have a valid IP address (the laptop, the printer, or both).
- 2 Turn on the device(s).
- 3 Check the IP addresses again.

If the laptop and/or printer still does not receive a valid IP address, there is a problem with your wireless network. Make sure your wireless access point (wireless router) is working, and remove any obstacles that could be blocking the wireless signal.

Communication with printer lost when connected to Virtual Private Network (VPN)

You will lose your connection to a wireless printer on your local network when connected to most *Virtual Private Networks* (VPNs). Most VPNs allow users to communicate with only the VPN and no other network at the same time. If you would like to have the ability to connect to your local network and to a VPN at the same time, the system support person for the VPN must enable split tunneling. Be aware that some organizations will not allow split tunneling due to security or technical concerns.

Installing the printer on an Ethernet network (selected models only)

Information you will need to set up the printer on an Ethernet network

- A valid, unique IP address for the printer to use on the network
- The gateway for the network
- The network mask of the network where the printer will be used
- A nickname for the printer (optional)

Notes:

- If your network automatically assigns IP addresses to computers and printers, you will not need to organize your network information before you begin.
- A printer nickname can make it easier for you to identify your printer on the network. You can choose to use the default printer nickname, or assign a name that is easier for you to remember.

You will need an Ethernet cable to connect the printer to the network and an available port where the printer can physically connect to the network. Use a new network cable when possible to avoid potential problems caused by a damaged cable.

Installing the printer on a wired (Ethernet) network

Before you install the printer on a wired network, make sure that:

- You have completed the initial setup of the printer.
- Your router is on, and your network is set up and working properly.
- Your computer is connected to your router.

1 Insert the installation software CD.

If the Welcome screen does not appear after a minute, do one of the following:

In Windows Vista

- a Click .
- b Locate the Start Search box.
- c Type `D:\setup.exe`, where D is the letter of your CD or DVD drive.

In Windows XP

- a Click **Start → Run**.
- b Type `D:\setup.exe`, where D is the letter of your CD or DVD drive.

In Mac OS X

- a Click the CD icon on the desktop.
 - b Double-click **Install**.
- 2 Follow the instructions on the Welcome screen to set up the printer.

Troubleshooting a printer on an Ethernet network

Printer does not appear in the list of printers found on the network

CHECK THE ETHERNET CABLE

- Check the Ethernet cable and the Ethernet connectors at both ends for any obvious damage.
- Firmly plug one end of the Ethernet cable into the printer. Firmly plug the other end of the Ethernet cable into the network hub or wall connection.
- Try using a different cable. Damage to the cable may not be obvious.

MAKE SURE THE PRINTER POWER IS ON

Make sure the printer is connected to a power source and is turned on.

MAKE SURE THAT THE NETWORK IS OPERATING PROPERLY

- Try to access other computers on the network.
- Make sure all switches, hubs, and other connecting devices are turned on.

MAKE SURE THE PRINTER HAS VALID NETWORK SETTINGS

Print a network setup page from the printer and check the following. Refer to the *User's Guide* for instructions on how to print a network setup page.

- Verify that the IP address is correct for your network.
- Verify that the gateway is correct.
- Verify that the network mask is the same as the network mask used for other computers and printers on your network.

Cannot print to the network printer

CHECK THE ETHERNET CABLE

- Check the Ethernet cable and the Ethernet connectors at both ends for any obvious damage.
- Firmly plug one end of the Ethernet cable into the printer. Firmly plug the other end of the Ethernet cable into the network hub or wall connection.
- Try using a different cable. Damage to the cable may not be obvious.

MAKE SURE THE PRINTER POWER IS ON

Make sure the printer is connected to a power source and is turned on.

MAKE SURE THAT THE NETWORK IS OPERATING PROPERLY

- Try to access other computers on the network.
- Make sure all switches, hubs, and other connecting devices are turned on.

UNINSTALL AND REINSTALL THE SOFTWARE

Frequently asked questions

Where do I find my WEP key or WPA passphrase?

To find the WEP key or WPA passphrase for the wireless network, view the security settings on the access point or wireless router. Most access points have a built-in Web server that can be accessed using a Web browser. If you do not know how to access the built-in Web server, or if you do not have administrator access to the wireless access point on your network, contact your system support person.

What is an SSID?

A Service Set Identifier (SSID) is the name that identifies a wireless network. All devices on the network must know the SSID of the wireless network or they will not be able to communicate with each other. Usually, the wireless network broadcasts the SSID to allow wireless devices in the area to connect to it. Sometimes, the SSID is not broadcast for security reasons.

If the SSID of your wireless network is not broadcast, it cannot be detected automatically and will not show up in the list of available wireless networks. You must enter the network information manually in this situation.

An SSID can contain up to 32 alphanumeric characters.

Where do I find my SSID?

You can find the SSID for the wireless network by viewing the settings on the access point or wireless router. Most access points have a built-in Web server that can be accessed using a Web browser.

Many network adapters provide a software application that allows you to view the wireless settings of your computer, including your SSID. Check your computer to see if a program was installed with your network adapter.

If you are unable to locate your SSID using either of these methods, contact your system support person.

What is a network?

A network is a collection of devices such as computers, printers, Ethernet hubs, wireless access points, and routers connected together for communication through cables or through a wireless connection. A network can be wired, wireless, or designed to have both wired and wireless devices.

Devices on a wired network use cables to communicate with each other.

Devices on a wireless network use radio waves instead of cables to communicate with each other. For a device to be able to communicate wirelessly, it must have a wireless print server attached or installed that lets it receive and transmit radio waves.

What types of wireless network security are available?

The wireless printer supports four security options: no security, WEP, WPA, and WPA2.

No Security

It is not recommended to use no security at all on a home wireless network. Using no security means that anyone within range of your wireless network can use your network resources—including Internet access, if your wireless network is connected to the Internet. The range of your wireless network may extend far beyond the walls of your home, allowing access to your network from the street or from your neighbors' homes. Ad hoc networks, which do not use wireless access points or routers, may be safely used without security. The range of an ad hoc network is very short, making unauthorized access unlikely.

WEP

WEP (Wireless Equivalent Privacy) is the most basic and the weakest type of wireless security. WEP security relies on a series of characters called the WEP key.

Every device on the wireless network must use the same WEP key. WEP security can be used on both ad hoc and infrastructure networks.

A valid WEP key has:

- Exactly 10 or 26 hexadecimal characters. Hexadecimal characters are A-F, a-f, and 0-9
- or*
- Exactly 5 or 13 ASCII characters. ASCII characters are letters, numbers, punctuation, and symbols found on a keyboard.

WPA and WPA2

WPA (Wi-Fi Protected Access) and WPA2 (Wi-Fi Protected Access 2) offer stronger wireless network security than WEP. WPA and WPA2 are similar types of security. WPA2 is a newer version of WPA and is more secure than WPA. Both WPA and WPA2 use a series of characters, called the WPA pre-shared key or passphrase, to protect wireless networks from unauthorized access.

A valid WPA passphrase has:

- From 8 to 63 ASCII characters. ASCII characters in a WPA passphrase are case-sensitive.
- or*
- Exactly 64 hexadecimal characters. Hexadecimal characters are A-F, a-f, and 0-9.

Every device on the wireless network must use the same WPA passphrase. WPA security is an option only on infrastructure networks with wireless access points and network cards that support WPA. Most newer wireless network equipment also offers WPA2 security as an option.

How do I find out what type of security my network is using?

You must know the WEP key or WPA passphrase and the type of security (WEP, WPA, or WPA2) used on the wireless network. To obtain this information, see the documentation that came with your wireless access point (wireless router), see the Web page associated with the wireless access point, or consult your system support person.

Note: The WEP key or WPA passphrase is not the same as the password for the wireless access point. The password allows you to access the wireless access point settings. The WEP key or WPA passphrase allows printers and computers to join your wireless network.

How are home networks configured?

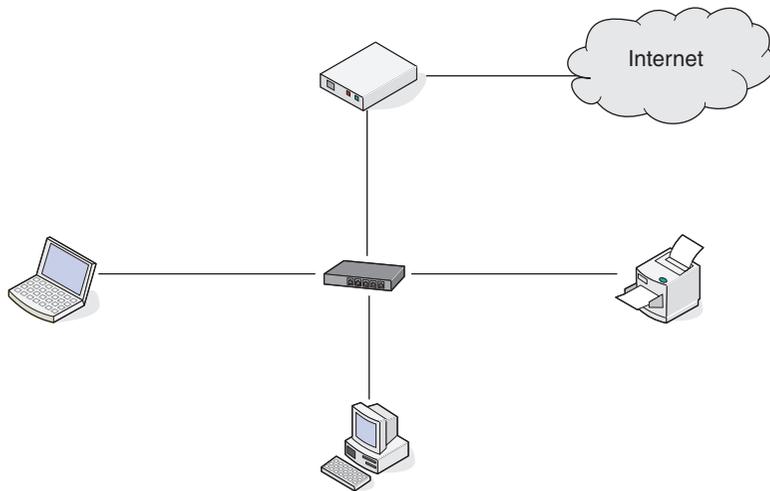
For desktop computers, laptops, and printers to communicate with each other over a network, they must be connected by cables and/or have wireless network adapters built in or installed in them.

There are many different ways a network can be set up. Five common examples appear below.

Note: The printers in the following diagrams represent printers with internal print servers built in to them so that they can communicate over a network.

Wired network example

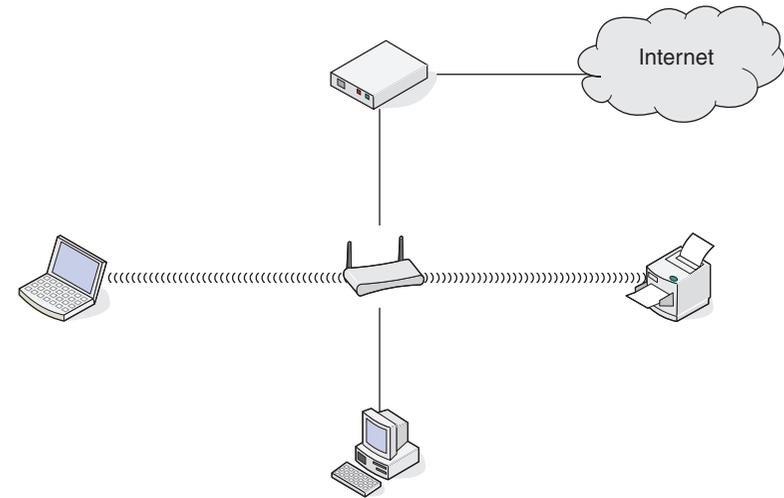
- A desktop computer, a laptop, and a printer are connected by Ethernet cables to a hub, router, or switch.
- The network is connected to the Internet through a DSL or cable modem.



Wireless network examples

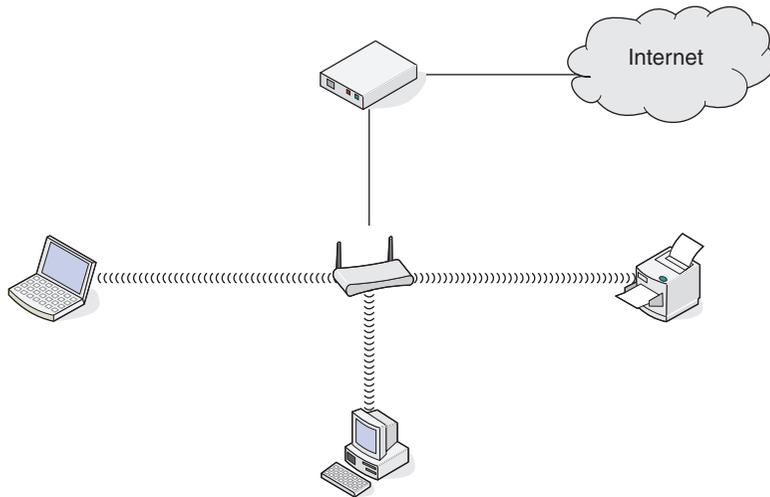
Scenario 1: Mixed wired and wireless connections on a network with Internet access

- All computers and printers connect to the network through a router with Ethernet and wireless capabilities.
- Some computers and printers connect wirelessly to the router; others connect over a wired connection.
- The network is connected to the Internet through a DSL or cable modem.



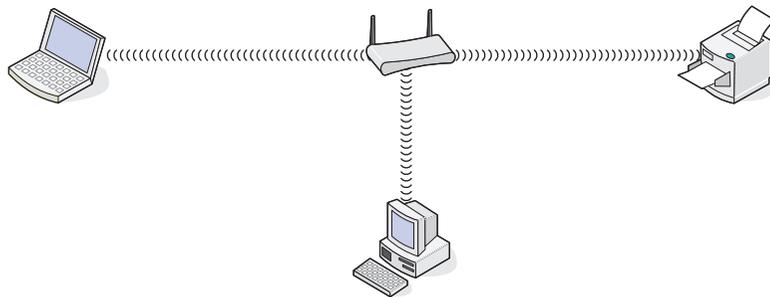
Scenario 2: Wireless network with Internet access

- All computers and printers connect to the network using a wireless access point or wireless router.
- The wireless access point connects the network to the Internet through a DSL or cable modem.



Scenario 3: Wireless network with no Internet access

- Computers and printers connect to the network using a wireless access point.
- The network has no connection to the Internet.



Scenario 4: Computer connected wirelessly to a printer without Internet access

- A computer is directly connected to a printer without going through a wireless router.
- This configuration is referred to as an ad hoc network.

- The network has no connection to the Internet.



Note: Most computers can connect to only one wireless network at a time. If you access the Internet over a wireless connection, you will lose Internet access if you are connect to an ad hoc network.

Why do I need an installation cable?

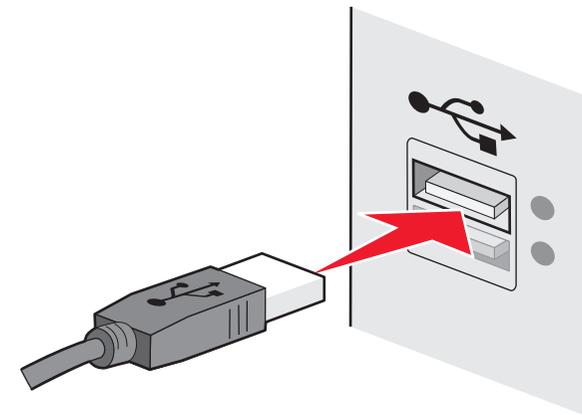
When setting up the printer on your wireless network, the printer will need to temporarily connect to a computer using the installation cable. This temporary connection is used to set up the wireless settings of the printer.

The installation cable connects to a rectangular USB port on the installing computer and the square USB port on the printer.

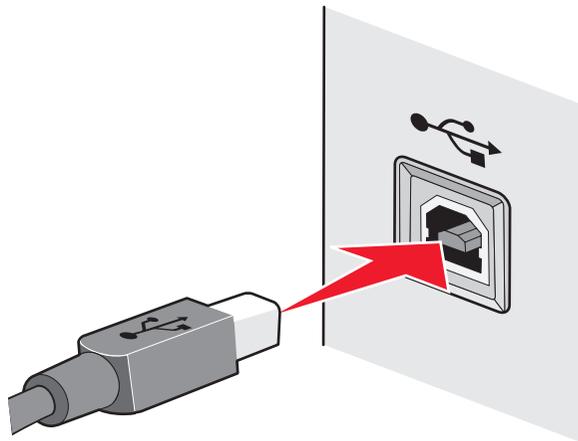
How do I attach the installation cable?

The installation cable attaches to a USB port on the computer and to the square connector on the back of the printer. This connection allows you to configure the printer for a networked or locally attached installation.

- 1 Attach the large, rectangular connector to any USB port on your computer. USB ports may be on the front or the back of the computer, and may be horizontal or vertical.



2 Attach the small, square connector to the printer.



3 Continue following the on-screen instructions.

How are infrastructure and ad hoc networks different?

Wireless networks can operate in one of two modes: infrastructure or ad hoc.

In *infrastructure* mode, all devices on a wireless network connect to a wireless router (wireless access point). Devices on the wireless network must have valid IP addresses for the current network and share the same SSID and channel as the wireless access point.

In *ad hoc* mode, a computer with a wireless network adapter connects directly to a printer equipped with a wireless print server. There is no wireless router or access point in an ad hoc network. The computer must have a valid IP address for the current network and be set to ad hoc mode. The wireless print server must be configured to use the same SSID and channel that the computer is using.

The following table compares the characteristics and requirements of the two types of wireless networks.

	Infrastructure	Ad hoc
Characteristics		
Communication	Through wireless access point	Directly between devices
Security	More security options	WEP or no security
Range	Determined by range and number of wireless access points	Restricted to range of individual devices on network points
Speed	Usually faster	Usually slower

	Infrastructure	Ad hoc
Requirements for all devices		
Unique IP address for each device	Yes	Yes
Same SSID	Yes, including the wireless access point	Yes

Lexmark recommends setting up a network in infrastructure mode using the installation CD that came with the printer.

Infrastructure mode is the recommended setup method because it offers:

- Increased network security
- Increased reliability
- Faster performance
- Easier setup

Finding the signal strength

Wireless devices have built-in antennas that transmit and receive radio signals. The signal strength listed on the printer network setup page indicates how strongly a transmitted signal is being received. Many factors can affect the signal strength. One factor is interference from other wireless devices or other devices such as microwave ovens. Another factor is distance. The farther two wireless devices are from each other, the more likely it is that the communication signal will be weaker.

The strength of the signal received by your computer can also affect the connectivity of the printer with the network during configuration. When you installed the wireless adapter in your computer, the adapter software probably placed an icon in your system tray. Try double-clicking this icon, and it will tell you how strongly the computer is receiving the wireless signal from the network.

To improve signal quality, remove sources of interference and/or move wireless devices closer to the wireless access point (wireless router).

How can I improve wireless signal strength?

A common reason wireless printers fail to communicate over a network is poor wireless signal quality. If the signal is too weak, too distorted, or blocked by an object, it cannot carry information between the access point and the printer. To determine if the printer is receiving a strong signal from the access point, print a network setup page. The Quality field indicates the relative strength of the wireless signal the printer is receiving. Drops in signal strength can be intermittent, however, and although the signal quality appears high, it may drop during certain conditions.

If you think signal strength is a problem between your access point and the printer, try one or more of the following:

Notes:

- The solutions below are for infrastructure networks. If you are using an ad hoc network, adjust the computer when the solution suggests adjusting the access point.
- Ad hoc networks have a much shorter range than infrastructure networks. Try moving the printer closer to the computer if they seem to have trouble communicating.

MOVE THE PRINTER CLOSER TO THE WIRELESS ACCESS POINT/WIRELESS ROUTER

If the printer is too far away from the access point, it will not be able to communicate with other devices on the network. For most indoor wireless networks, the maximum distance between the access point and the printer is approximately 100 feet (30 meters). This distance could be longer or shorter, depending upon the layout of the network and the limitations of the access point.

REMOVE OBSTACLES BETWEEN THE ACCESS POINT AND THE PRINTER

The wireless signal from your access point will pass through most objects. Most walls, floors, furniture and other objects will not block the wireless signal. However, there are materials that are too dense for the signal to pass through. Objects containing metal and concrete can block the signal. Arrange your printer and access point so that the signal is not blocked by such objects.

REMOVE SOURCES OF INTERFERENCE

Other types of radio frequencies can cause problems with the wireless signal on your network. These sources of interference can cause printing issues that seem to come and go. Turn off potential sources of interference where possible. Avoid using microwaves and cordless phones when printing over your wireless network.

If another wireless network is operating in the vicinity, change the wireless channel on the access point.

Do not place your access point on a printer. Printers can also interfere with the wireless signal.

ARRANGE THE NETWORK TO REDUCE SIGNAL ABSORPTION

Even when the wireless signal is able to pass through an object, it is slightly weakened. If it passes through too many objects, it can be significantly weakened. All objects absorb part of the wireless signal

when it passes through them, and certain types of objects absorb enough to cause communications problems. Place your access point as high in the room as possible to avoid signal absorption.

Can I use my printer on a USB and a network connection at the same time?

Yes, the printer supports a simultaneous USB and network connection. The printer can be configured in the following ways:

- Locally attached (connected to a computer using a USB cable)
- Wireless network
- Ethernet network
- Wireless network and locally attached simultaneously
- Ethernet network and locally attached simultaneously

Note: Wireless and Ethernet options are available on selected models only.

What is a MAC address?

A Media Access Control (MAC) address is a 48-bit identifier associated with the hardware of network equipment. The MAC address may also be called the physical address because it is connected to the hardware of a device instead of its software. The MAC address is displayed as a hexadecimal number in this format: 01-23-45-67-89-AB.

Every device capable of communicating on a network has a MAC address. Network printers, computers, and routers, whether Ethernet or wireless, all have MAC addresses.

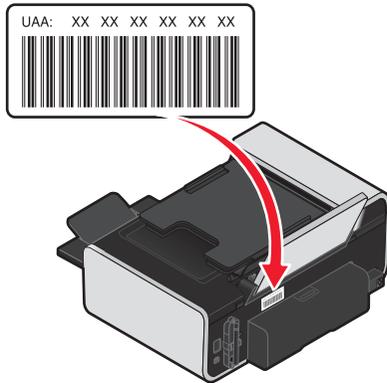
While it is possible to change the MAC address of a network device, it is not common practice to do so. For this reason, MAC addresses are considered permanent. IP addresses are easily changed, so MAC addresses are a more reliable method of identifying a specific device on a network.

Routers with security capabilities may allow filtering of MAC addresses on networks. This allows a managed list of devices to access the network, identified by their MAC addresses. MAC address filtering can help prevent access on the network from unwanted devices, such as from intruders on a wireless network. MAC address filtering can also prevent legitimate access if you forget to add a new device to the router's list of allowed addresses. If your network uses MAC address filtering, be sure to add the MAC address of the printer to the list of allowed devices.

How do I find the MAC address?

Most network equipment has a unique hardware identification number to distinguish it from other devices on the network. This is called the *Media Access Control* (MAC) address.

The MAC address is a series of letters and numbers located on the back of your printer.



Note: A list of MAC addresses can be set on an access point (router) so that only devices with matching MAC addresses are allowed to operate on the network. This is called MAC filtering. If MAC filtering is enabled in your access point (router) and you want to add a printer to your network, the MAC address of the printer must be included in the MAC filter list.

What is an IP address?

An IP address is a unique number used by devices (such as a wireless printer, computer, or wireless access point) on an IP network to locate and communicate with each other. Devices on an IP network can communicate with each other only if they have unique and valid IP addresses. A unique IP address means no two devices on the same network have the same IP address.

An IP address is a group of four numbers separated by periods. An example of an IP address is 192.168.100.110.

What is TCP/IP?

Networks are able to function because computers, printers, and other devices are able to send data to each other, either through cables or by using wireless signals. This transfer of data is made possible by sets of data transmission rules called *protocols*. A protocol can be thought of as a language, and like a language, it has rules allowing participants to communicate with each other.

Different types of networks use different protocols, but *Transmission Control Protocol/Internet Protocol* (TCP/IP) is the most popular. TCP/IP is used to send data over the Internet as well as over most corporate and home networks.

Because computers do not understand words and instead rely upon numbers for communication, TCP/IP requires that every device on a network using TCP/IP to communicate must have an IP address. IP addresses are essentially unique computer names in a numeric format, used to transfer data around a network. IP addresses allow TCP/IP to confirm requests for and receipt of data by various devices on the network.

How do I locate IP addresses?

How to locate a computer IP address using Windows

1 Do one of the following:

In Windows Vista

- Click .
- Click **All Programs → Accessories**.
- Click **Command Prompt**.

In Windows XP and earlier

- Click **Start**.
- Click **All Programs** or **Programs → Accessories → Command Prompt**.

2 Type `ipconfig`.

3 Press **Enter**.

The IP address appears as four sets of numbers separated by periods, such as 192.168.0.100.

How to locate a computer IP address using Macintosh

1 Click  → **System Preferences**.

2 Click **Network**.

For Mac OS X version 10.5

- Click **AirPort**.
- Click **Advanced**.
- Click **TCP/IP**.

The IP address appears as four sets of numbers separated by periods, such as 192.168.0.100.

For Mac OS X version 10.4 and earlier

- From the Show pop-up menu, select **AirPort**.
- Click **TCP/IP**.

The IP address appears as four sets of numbers separated by periods, such as 192.168.0.100.

How to locate a printer IP address

- You can locate the printer IP address by viewing the printer network setup page.

How are IP addresses assigned?

An IP address may be assigned automatically by the network using DHCP. Once the printer is set up on a computer, the computer sends all print jobs across the network to the printer using this address.

If the IP address is not automatically assigned, you will be asked during wireless setup to manually enter an address and other network information after selecting your printer from the available list.

What is a key index?

A wireless access point (wireless router) can be configured with as many as four WEP keys. Only one key is used on the network at a time, however. The keys are numbered, and the number of a key is referred to as its key index. All devices on the wireless network must be configured to use the same key index when multiple WEP keys are configured on the wireless access point.

Select the same key index on your printer as you are using on your wireless access point.

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April 2008

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Networking glossary

ad hoc mode	A setting for a wireless device that lets it communicate directly with other wireless devices without an access point or router
ad hoc network	A wireless network that does not use an access point
AutoIP address	An IP address automatically assigned by a network device. If the device is set to use DHCP, but no DHCP server is available, an AutoIP address may be assigned by the device.
BSS (Basic Service Set)	Basic Service Set describes the type of wireless network that you are using. The BSS type can be one of the following: Infrastructure network or Ad-Hoc network.
channel	A specific radio frequency used by two or more wireless devices to communicate with each other. All devices on the network must use the same channel.
DHCP (Dynamic Host Configuration Protocol)	A language used by DHCP servers
DHCP IP address	An IP address automatically assigned by a DHCP server
DHCP server	A computer or router that gives a unique IP address to each device on the network. Unique addresses prevent conflicts.
infrastructure mode	A setting for a wireless device that lets it communicate directly with other wireless devices using an access point or router
installation cable	Connects the printer to the computer temporarily during some methods of installation.
internal wireless print server	A device that lets computers and printers talk to each other over a network without cables
IP (Internet Protocol) address	The network address of a computer or printer. Each device on the network has its own network address. The address may be assigned manually by you (Static IP address), automatically by the DHCP server (DHCP IP address), or automatically by the device (AutoIP address).
ipconfig	A command that displays the IP address and other network information of a Windows computer
MAC (Media Access Control) address	A hardware address that uniquely identifies each device on a network. You can usually find the MAC address printed on the device.
MAC filtering	A method of limiting access to your wireless network by specifying which MAC addresses may communicate on the network. This setting may be specified on wireless routers or access points.
network adapter/card	A device that lets computers or printers talk to each other over a network
network hub	A device that connects multiple devices on a wired network

network name	See "SSID (Service Set Identifier)" on page 33
ping	A test to see if your computer can communicate with another device
printer nickname	The name you assign to your printer so that you and others can identify it on the network
router	A device that shares a single Internet connection with multiple computers or other devices. The basic router controls network traffic.
security key	A password, such as a WEP key or a WPA pass phrase, used to make a network secure
signal strength	Measure of how strongly a transmitted signal is being received
SSID (Service Set Identifier)	The name of a wireless network. When you connect a printer to a wireless network, the printer needs to use the same SSID as the network. Also referred to as network name or BSS (Basic Service Set).
Static IP address	An IP address assigned manually by you
switch	A device similar to a network hub that can connect different networks together
UAA (Universally Administered Address)	An address assigned to a network printer or print server by the manufacturer. To find the UAA, print a network setup page and look for the UAA listing.
USB cable	A lightweight, flexible cable that lets the printer communicate with the computer at much higher speeds than parallel cables
USB port	A small, rectangular port on the back of the computer that connects the peripheral devices using a USB cable, and lets them communicate at high speeds
WEP (Wired Equivalent Privacy)	A security setting that helps prevent unauthorized access to a wireless network. Other possible security settings are WPA and WPA2.
wireless access point	A device that connects wireless devices together to form a wireless network
wireless router	A router that also serves as a wireless access point
Wi-Fi	An industry term that describes the technology used to create an interoperable wireless local area network (WLAN).
WPA (Wi-Fi Protected Access)	A security setting that helps prevent unauthorized access to a wireless network. WPA is not supported on ad hoc wireless networks. Other possible security settings are WEP and WPA2.
WPA2	A newer version of WPA. Older routers are less likely to support this. Other possible security settings are WPA and WEP.
WPS (Wi-Fi Protected Setup)	An automated method of setting up devices on a wireless network. It offers secure network setup with fewer configuration steps than most other wireless configuration methods.

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