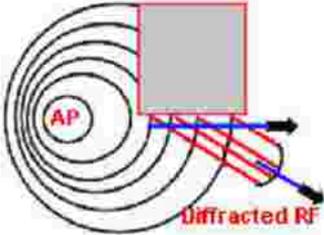


Term	Simple Definition	Advanced Definition
10BaseT:	...	An IEEE standard (802.3) for operating 10 Mbps Ethernet networks (LANs) with twisted-pair cabling and a wiring hub.
Absorption (RF behavior)	Radio frequency (RF) energy is absorbed by material rather than deflected or reflected.	<p>The weakening of a wireless signal that occurs as it passes through objects, especially those made of metal (walls, stairwells, filing cabinets) or containing large percentages of water (fish tanks, stacks of paper, people, etc.).</p> <p>To avoid excessive absorption of the wireless signal, position the access point above any large objects in the area. An adjustment of the antennas may be necessary.</p>
Access Point (AP)	A device that provides wireless clients with access to a wired network.	An internetworking device that seamlessly connects wired and wireless networks. Access points combined with a distributed system support the creation of multiple radio cells that enable roaming throughout a facility.
Ad Hoc Mode	A mode of operation for Wi-Fi networks in which devices communicate directly with each other.	<p>-- Default setting on Lexmark wireless network adapters.</p> <p>-- This will change to <i>infrastructure</i> during the configuration of the print server with an access point.</p> <p>-- Also known as peer-to-peer, computer-to-printer, or computer-to-computer depending on the types of devices involved.</p>

Term	Simple Definition	Advanced Definition
Ad Hoc Network	A network in which all nodes communicate and share resources with each other directly over temporary wireless connections.	<p>-- A network composed solely of stations within mutual communication range of each other.</p> <p>-- A direct 11Mbps peer-to-peer connection</p> <p>-- No router, access point, or centralized security.</p> <p>-- Allows communication between a computer and a printer within range that both have an 802.11b/g/n option card.</p>
AirPort base station	<p>A wireless access point sold by Apple.</p> <p>Connect your wireless printer to your network with the AirPort base station.</p>	<p>-- Type of access point sold by Apple. Not to be used as a generic term for access point.</p>
Antenna	A device used to transmit and receive radio signals.	<p>Wireless devices such as access points and routers have antennas that can be adjusted to improve signal reception by other wireless devices.</p> <p>If the wireless signal of the network is weak, move the antenna on the printer to a different position.</p>
Antenna diversity	A transmission method using multiple antennas on a single access point, usually to overcome multipath and improve wireless signal reception.	<p>-- Multipath radio frequency (RF) waves and physical location of both AP (access point) and client device (i.e. wireless printer) can affect signal strength.</p> <p>-- A change in angle of individual antennas can improve or decrease signal strength, and help overcome various forms of interference.</p> <p>NOTE: This excludes channel interference.</p>

Term	Simple Definition	Advanced Definition
<p>Association</p> <p>Also associate, associating, associated.</p>	<p>The relationship that is created between a wireless client and the access point.</p>	<p>-- Wireless devices perform handshaking, and share and verify SSID (network name) and security information, thus allowing communication between the two wireless devices.</p> <p>-- Green Wi-Fi lights guarantee that the devices are associating; however, an associating printer does not guarantee network connectivity unless the printer receives an IP address from the DHCP server and is associating with the proper access point.</p>
<p>Bonjour</p>	<p>Apple networking terminology. Formerly called Rendezvous.</p> <p>A networking technology developed by Apple that makes it easy to set up and use network resources.</p> <p>Use Bonjour to discover other networked devices on your wireless network.</p> <p>Bonjour uses the following protocols:</p> <ul style="list-style-type: none"> -- DDNS -- mDNS -- AutoIP 	
<p>BOOTP - BOOTstrap Protocol</p>	<p>Always capitalized.</p> <p>A protocol allowing a network device to broadcast a request for an IP address, and a server to respond to the request and assign the client an IP address, a gateway, and a name server address.</p>	<p>The client makes a BOOTP request and is assigned an IP address.</p> <p>DHCP is based on BOOTP, though DHCP offers more options.</p>

Term	Simple Definition	Advanced Definition
<p>BSS (Basic Service Set)</p> <p>A set of stations controlled by a single coordination function.</p>	<p>Use infrastructure mode instead of BSS.</p> <p>A wireless network in which networked devices communicate with each other through an access point. See infrastructure mode.</p> <p>BSS provides better speed and security than ad hoc mode.</p>	<p>See infrastructure</p>
<p>Broadcast SSID</p>	<p>A wireless access point setting that controls whether or not the SSID for the wireless network is broadcast. Settings usually include Enabled and Disabled.</p> <p>If the broadcast SSID is set to Disabled, then the wireless network cannot be detected automatically</p>	<p>...</p>
<p>Channel</p>	<p>A defined frequency range used for communication. Channels are represented by numbers 1-14 for b/g networks.</p>	<p>A medium used to pass data units that can be used simultaneously in the same volume of space by other channels of the same physical layer, with an acceptably low frame error ratio due to the absence of mutual interference.</p>
<p>Channel interference</p>	<p>A type of wireless interference that occurs when two or more wireless signals share the same frequency and cause wireless signal degradation.</p>	<p>-- Can occur when an access point shares the same frequency as a microwave oven or a cordless phone.</p> <p>-- Switch the access point to a different channel to eliminate the possibility of channel interference.</p>
<p>Client</p>	<p>Client, workstation, remote computer on a network.</p>	<p>A network device that requests services from another device on the network, such as security, Web pages, or Internet access. Verify that the client has a valid IP address.</p>

Term	Simple Definition	Advanced Definition
DHCP (Dynamic Host Configuration Protocol)	The wireless printer will automatically be assigned an IP address if your router supports DHCP.	A set of rules allowing clients on a network to send out requests for IP addresses, and for a specially configured server to respond to the requests with IP address configurations. Addresses are assigned randomly from a range defined by the responding server.
DHCP server	A machine acting as DHCP server that sends out IP addresses based on newly discovered devices.	A network device running DHCP that assigns IP addresses from a predefined range to network devices that broadcast requests for IP address configurations. Verify that the DHCP server is functioning correctly.
Diffraction (RF behavior)	A form of wireless signal distortion that occurs when objects with corners change the path of a wireless signal. 	Diffraction causes the signal to turn around the corner. This type of distortion can help improve the range of a wireless signal, as when a signal passes through a doorway, or it can result in multipath interference if the signals return along different paths and with different delays. The range of an access point may extend to an adjacent room only when the door is open due to diffraction.
Direct IP	Connecting to a device directly by IP address. In direct IP printing, users can print directly to a printer's IP address using predefined ports on the printer. Users must install drivers for each printer they want to print to via direct IP.	The opposite of print queue-based printing, direct IP printing involves the creation (enumeration) of a printer port via the printer software or operating system, and queued print jobs go directly to the printer instead of to a print server on the network.

Term	Simple Definition	Advanced Definition
DTIM: Delivery Traffic Indication Map	...	The stations that currently have data held in an AP are identified by a Traffic Indication Map (TIM). This TIM is included in the beacon sent by an AP. DTIM is a special type of TIM. When a DTIM is sent in a beacon frame, it signals that all the broadcast and multicast data held for stations in PS mode will be sent immediately after the beacon frame.
Encapsulated	...	An ethernet address mode that treats the entire ethernet packet as a whole and places it inside an 802.11 frame along with a new header.
ESS (Extended Service Set)	Multiple Basic Service Sets connected through a distribution system and having a shared SSID.	A set of one or more interconnected Basic Service Sets (BSSs) and integrated Local Area Networks (LANs) can be configured as an Extended Service Set.
Ethernet	A normal wired network which uses CAT 5/6 cabling.	Defined by the IEEE 802.3 standard, ethernet is the most widely used medium access method. Ethernet is normally a shared media LAN - i.e., all the devices on the network segment share the total bandwidth. Ethernet networks operate at 10Mbps/100Mbps using CSMA/CD to run over 10BaseT/100BaseT cables.
FTP (File Transfer Protocol)	A method of transmitting files between computers.	Use FTP to send the file directly to the printer.

Term	Simple Definition	Advanced Definition
Hidden Node	A situation in which a wireless client can be seen by the access point but not by other wireless clients on the network. This can result in collisions and reduced network throughput.	The situation where two or more radios in a multiple-radio network fail to detect the RF signals from each other. For example, in a 3-radio network, radio 2 and 3 both have a good link to radio 1. Radio 2 and 3, however, are isolated from each other by, say, a metal wall. Radio 2 therefore is a 'hidden node' to radio 3, and vice versa.
Host name	The name assigned to a computer on a network. As an alias for an IP address it is easier to remember than a number.	Configure the host name for the BOOTP entry.
IBSS (Independent Basic Service Set)	A wireless network in which networked devices communicate directly with each other. See ad hoc mode . Use ad hoc mode instead of IBSS.	IBSS allows for flexible, temporary wireless network setups.
IEEE 802.11 (Institute of Electrical and Electronics Engineers)	An organization that has specified the standards for 802.11, including the following: -- 802.11 (FHSS, DSSS) -- 802.11a (OFDM) -- 802.11b (DSS) -- 802.11g (OFDM) -- 802.11n (OFDM,DSS,MIMO) (Modulation Types)	The IEEE 802.xx is a set of specifications for LANs from the Institute of Electrical and Electronic Engineers (IEEE). Most wired networks conform to 802.3, the specification for CSMA/CD-based ethernet networks, or to 802.5, the specification for token-ring networks.
Infrastructure mode	Wireless network design in which all of the nodes communicate with each other through a central access point. Use instead of BSS.	Select infrastructure mode if your wireless network uses an access point or wireless router.

Term	Simple Definition	Advanced Definition
Infrastructure Network	A wireless network centered about an access point.	In this environment, the access point not only provides communication with the wired network, but also mediates wireless network traffic in the immediate neighborhood.
Internal print server	A network adapter installed in a printer that allows it to physically connect to a network.	Attach the ethernet cable to the internal print server.
Internal wireless print server	A network adapter installed in a printer that lets computers print to it over a wireless network.	Print the network setup page to verify that the internal wireless print server has a valid IP address.
Internet Connect	<p>An application in Mac OS X that allows the user to activate dial-up connections to the Internet via an ISP or VPN. It also provides a simple way to connect to an AirPort Network. The Internet Connect application provides more general tools than the more detailed Network pane in System Preferences, which allows the user to configure and control system-wide network settings.</p> <p>Launch Internet Connect and select New VPN Connection Window from the File menu.</p>
IP (Internet Protocol)	...	The standard protocol within TCP/IP that defines the basic unit of information passed across an Internet connection by breaking down data messages into packets, routing and transporting the packets over network connections, and then reassembling the packets at their destination. IP corresponds to the network layer in the ISO/OSI model.

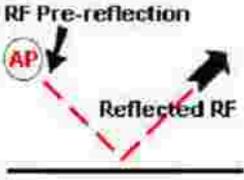
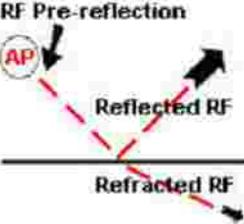
Term	Simple Definition	Advanced Definition
IP address (Internet Protocol address)	<p>A 32-bit binary number that identifies the location of a specific computer on the Internet. Any computer directly connected to the Internet must have an IP address.</p> <p>Verify that the printer has a valid IP address.</p>	<p>An IP address has two parts: the identifier of a particular network on the Internet, and an identifier of the particular device (which can be a server or a workstation) within that network.</p>
Ipconfig	<p>A Windows program that displays the IP address and other network information of a computer.</p>	<p>To view the network settings on your computer, go to the command prompt and type ipconfig.</p>
ISP (Internet Service Provider)	<p>An organization that provides access to the Internet. Small ISPs provide service via modem and ISDN while the larger ones also offer private line hook-ups (T1, fractional T1, etc).</p>	<p>...</p>
LAA (Locally Assigned Address)	<p>Print out the network settings page and check the LAA of the printer.</p>	<p>The hardware address of a network device that is assigned by an administrator rather than assigned by the manufacturer of the equipment (see UAA). An LAA is a type of MAC address.</p>
LAN (Local Area Network)	<p>Not to be confused with WAN (Wide Area Network) or WLAN (Wireless Local Area Network).</p>	<p>A communication network that serves users within a defined geographical area. The benefits include the sharing of files, Internet access, and equipment such as printers and storage devices. Special network cabling (10BaseT) is often used to connect the PCs together.</p>

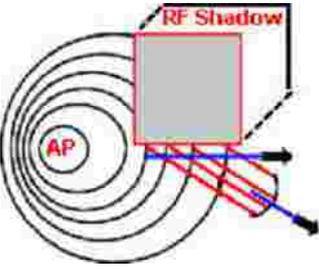
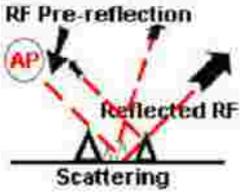
Term	Simple Definition	Advanced Definition
MAC address (Media Access Control address)	The hardware address of a network device.	<p>The MAC address is in a format of XX-XX-XX-XX-XX-XX, where the Xs are hexadecimal digits (0-9 and A-F). The MAC address can usually be found printed on the device. MAC addresses may be provided by the manufacturer of the equipment (see UAA), or may be assigned by a network administrator (see LAA).</p> <p>By determining the MAC addresses of the devices on your wireless network, you can increase security.</p>
MAC address filtering	A method of limiting access to a wireless network. The MAC addresses allowed on the network are specified at the access point or wireless router.	<p>If the wireless router has MAC address filtering implemented, add the MAC address of the printer to the list of allowed addresses on the network.</p> <p>If enabled on the router, the site survey that is performed by Lexmark's installation software will not find the printer.</p>
Multipath	A distortion of a wireless signal that occurs when a physical object splits the signal into multiple paths, causing different parts of the signal to take different paths to the destination.	<p>Multipath results in a time delay for the portions of the signal that take the longer path. This causes the wireless signal to be weak.</p> <p>Antenna diversity may improve a wireless network multipath problem.</p>
Multipath source or RF behavior	Any obstructions that may impede radio transmission between an access point and client wireless device.	See... Absorption, Diffraction, Reflection, Refraction, or Scattering for further explanations.
NBNS (NetBIOS Name Service)	A program running on a server that maps Windows computer names to IP addresses.	...

Term	Simple Definition	Advanced Definition
NBT (NetBIOS over TCP/IP)	NBT is the NetBIOS protocol running on top of TCP/IP. This allows communications between NetBIOS networks which are otherwise not routable.	NBT must run on a networked Windows computer or it will not be able to communicate with other networks.
NetBIOS (Network Basic Input/Output System)	...	<p>Primarily used to identify computers with unique 15-character names which are periodically broadcast so that they can be tracked and accessed through Windows Network Neighborhood or My Network Places.</p> <p>Verify that the computer is broadcasting the correct NetBIOS name.</p>
NAT (Network Address Translation)	...	The translation of an Internet Protocol address (IP address) used within one network to a different IP address known within another network. One network is designated the internal network and the other is the external. The internal network then appears as one entity to the outside world.
Netmask	Type ipconfig at the command prompt to view your IP address and netmask.	A 32-bit binary number used to divide a TCP/IP network into smaller subnetworks.
Network adapter or network card	<p>Hardware installed on various network devices that allows them to physically connect to a network.</p> <p>Your computer must have a wireless network adapter installed to be able to communicate wirelessly.</p>	...
Network hub	A device used to connect computers or peripherals to a network.	<p>Dedicated access points function as network hubs by connecting wireless clients to a wired network.</p> <p>Alternatively, connect your printer to the hub using an ethernet cable.</p>

Term	Simple Definition	Advanced Definition
Network name	<p>Use SSID in preference to network name.</p> <p>All devices on the network must be configured for the same network name.</p>	...
Network Utility	<p>Apple networking terminology</p> <p>An application included in Mac OS X that provides a variety of computer network information.</p> <p>Use Network Utility to ping your printer</p>	...
PCMCIA (Personal Computer Memory Card International Association)	<p>This association develops standards for PC cards, formerly known as PCMCIA cards.</p>	<p>These cards are available in three types, and are about the same length and width as credit cards. However, different cards range in thickness from 3.3 mm (Type I) to 5.0 mm (Type II) to 10.5 mm (Type III). These cards can be used for various functions, including memory storage, landline modems, and wireless modems.</p>
PEM (Privacy Enhanced Mail)	...	<p>This is a popular encoding format for digital certificates. PEM-encoded files have a .pem file extension.</p> <p>Enter the path to your PEM-encoded certificate</p>
Ping (Packet InterNet Grouper)	<p>A program used to verify that two networked devices are able to communicate with each other.</p> <p>Ping is generally used as a verb although originally the word was a noun.</p>	<p>Ping the printer from your computer: C:\ping [printer IP address], where [printer IP address] is the IP address on your printer network settings page.</p>

Term	Simple Definition	Advanced Definition
Point and Print	...	A feature on MS Windows Server 2000 and later that allows users to select a shared printer after which the operating system will automatically install the printer drivers, including any driver updates and any new options on the printer which may be installed at some future time.
Printer nickname	The name you assign to a printer so that it can be easily identified on a network.	Assign a printer nickname after installing the printer.
Printer Setup Utility	<p>Apple networking terminology</p> <p>An application included in Mac OS X that allows the user to configure printers physically connected to the computer or connected via a network.</p> <p>Open the Printer Setup Utility and locate the printer in the list.</p>	
PS (Power Save) mode	...	This mode is recommended for devices where power consumption is a major concern, such as battery-powered devices.
Range	The advertised maximum distance that can separate wireless devices if they are still to receive a signal.	<p>Verify that the printer is within range of the access point. Range can be affected by multipath, distance, power of access point, antenna angle, antenna type and various forms of interference.</p> <p>Throughput can be increased with booster antennas, changing antenna angles, repositioning of access point in relation to the client wireless device, or changing channels.</p>

Term	Simple Definition	Advanced Definition
RARP (Reverse address resolution protocol) server	RARP is a protocol allowing network devices to broadcast requests for IP addresses across a network.	A RARP server checks the MAC address of the requesting device, checks its database for the IP address associated with the device, and assigns that address to the device. RARP is a predecessor of BOOTP, but unlike BOOTP or the more modern DHCP, RARP simply provides the client with an IP address.
Reflection (RF behavior)	<p>A behavior of RF signals where most of the signal is bounced off an obstacle and focused in a different direction.</p> 	<p>A type of interference that occurs when a wireless signal bounces back in the same direction because it encounters an object--especially a large, flat, metal object--in its path. Reflection can be beneficial by altering the range of wireless coverage to include additional areas. In some cases, however, it interferes with signal reception.</p> <p>If an area outside the normal range of the wireless signal is able to associate with the network, the reason may be reflection.</p>
Refraction (RF behavior)	<p>A behavior of RF signals where some of the signal is reflected but much of the signal passes through the obstacle and is redirected out the other side, so the direction of the signal changes.</p> 	<p>The bending of a wireless signal path as the wave passes through an object of higher density, such as a wall.</p> <p>Refraction can cause interference on a wireless network because it can cause part of a signal to move more slowly than another part.</p>
RF	Radio Frequency	Any radio-based technology, including Wi-Fi.

Term	Simple Definition	Advanced Definition
RF shadow (RF behavior)	<p>The space behind an obstacle that diffracts the RF signal opposite the access point. This lack of coverage is called RF shadow.</p> 	<p>An area where wireless reception is impossible due to the presence of objects that prevent the penetration of radio waves.</p> <p>Stairwells, walls and doors are among the many objects commonly responsible for indoor RF shadow interference. Think of a person in lake; when a wave passes over and around, the area directly behind the person blocks that wave from proceeding.</p>
Router	<p>Networking device that manages communications between multiple networks and finds the most efficient way of connecting the conversations.</p>	<p>Your wireless router IP address is usually your default gateway IP address.</p>
Scattering (RF behavior)	<p>The fragmentation of a wireless signal when an irregularly-shaped object interrupts its path.</p> 	<p>Scattering causes the signal to go off in many different directions. Scattering can cause refraction or diffraction.</p> <p>Scattering in an outdoor environment is frequently caused by water droplets in the air.</p>
Signal strength	<p>A measure of how well a radio signal is being received.</p>	<p>If the signal strength of your access point is low, try moving any large metal objects out of the path between your access point and your computer.</p>
SSID (Service Set Identifier) Use in preference to Network Name .	<p>This name identifies a wireless network. All devices on the network must know the SSID of the wireless network if they are to be able to communicate with each other. An SSID can contain up to 32 characters.</p> <p>If your SSID is an ASCII string, remember it is case-sensitive and type it accordingly.</p>	<p>...</p>

Term	Simple Definition	Advanced Definition
Station	The station is the component that connects a host computer or device to the wireless medium. It may be referred to as the Wireless Network Adapter or the Wireless Network Interface Card
Telnet	The name of the protocol and terminal emulation program that allows one computer to access another and run commands remotely.	Not available with inkjet products.
Throughput	The actual rate at which information is transferred over a connection.	Throughput is affected by multipath, distance, power of access point, antenna angle, antenna type and various forms of interference. Throughput can be increased with booster antennas, changing antenna angles, repositioning of the access point in relation to the client wireless device, or changing channels.
UAA (Universally Administered Address) MAC address	A MAC address that is assigned to a network device by the company that manufactured it.	The UAA assigned to your printer is unique.
Wi-Fi (Wireless Fidelity)	Describes any device that is capable of communicating on a wireless network.	A Wi-Fi network card is required to print to the wireless printer
WINS (Windows Internet Naming Service)	...	A network application that associates computer names with their Internet addresses. It automatically keeps track of network configuration changes, and allows users to contact computers with easy-to-remember names while maintaining numeric addresses that aid in routing. Verify that your DHCP server provides the correct IP address of your WINS server.

Term	Simple Definition	Advanced Definition
<p>Wireless</p>	<p>This term is used to describe communications between printers and computers via radio signals.</p>	<p>A method of network communication that uses radio frequencies to carry information instead of cables.</p> <p>The wireless settings for the printer must exactly match the wireless settings for the network.</p>
<p>Wireless access point</p> <p>Also access point.</p>	<p>A central connection point in a wireless network that allows nodes on the network to communicate with each other over an infrastructure network.</p> <p>Ping your access point to make sure your wireless network is functioning.</p>	<p>Use instead of base station, unless referring specifically to an AirPort base station. Also may be used when referring to situations where either an access point or wireless router could be used. All wireless routers are access points but not all access points are wireless routers.</p> <p>Also access point.</p>
<p>Wireless channel</p> <p>Also channel.</p>	<p>...</p>	<p>A portion of the broadcast frequency that communications regulatory agencies allow wireless networks to use. While they are usually set to a default of channel 6, it is possible to change the broadcast channel on most wireless access points to any of the available channels. All devices on a wireless network must be set to the same wireless channel in an ad hoc network, or to autodetect the channel in infrastructure networks.</p> <p>Changing the wireless channel your router uses may improve your wireless network's signal strength.</p>

Term	Simple Definition	Advanced Definition
<p>Wireless Configuration Utility</p> <p>(Lexmark) Also Wireless Setup Utility. In Macintosh environments this is called the Lexmark Series Setup Assistant.</p>	<p>The part of the Lexmark printer installation program that lets users configure their printers for wireless access. This utility performs a site survey and finds your access point SSID, or network name, and is responsible for port creation.</p>	<p>Run the Wireless Configuration Utility to add the printer to the wireless network or reconfigure the printer after deletion of printer or printer port.</p> <p>The site survey only searches the local subnet. If your SSID is not discovered, you should manually enter the SSID and affiliated security settings.</p>
<p>Wireless mode</p>	<p>Either ad hoc or infrastructure.</p>	<p>...</p>
<p>Wireless router</p> <p>Also router.</p>	<p>Wireless routers serve as access points and connect a wireless network to a wired network, thus the router serves as an access point. Wired routers do not have this functionality, but dedicated access points can be connected to wired routers.</p> <p>Access the wireless router to check security settings for the network.</p>	<p>Serving as an access point, it is most often used to connect a wireless network (WLAN) with a wired network. Accordingly, routers connect to the (WAN) through an ethernet cable via cable or DSL modem.</p>
<p>WLAN</p> <p>Wireless Local Area Network.</p>	<p>A wireless network covering an area no larger than an office, a building floor, or a home.</p>	<p>Position the access point so it is in the center of the WLAN.</p>