

User Guide

Guide d'utilisation

Guida dell'utente

Benutzerhandbuch

Guía del usuario

Guia do Usuário

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Features

1

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Introduction

The Xerox WNA-100 Wireless Network Adapter allows multiple users on a wireless local area network (LAN) to print and scan to Xerox devices. The Wireless Network Adapter can be used in 802.11a/b/g wireless networks for accessing Xerox devices. The adapter also includes an ethernet interface for connecting to a Xerox device. After configuring the adapter for your wireless LAN, and connecting the Xerox printing device up to your wired network, you can print to that device over the wireless network. If the device has network scan or fax capability, you can use these services.

The Wireless Network Adapter is a LAN bridge that transparently transmits network traffic from the wireless LAN to the wired network. It can be used with a large number of Xerox printers and multifunction devices and can also be configured to work in a large number of wireless environments. The Wireless Network Adapter supports common wireless security protocols (WEP, WPA, WPA2) and 802.1X and has port based network access control. The adapter has a built-in web server for configuring the device using your favorite browser.

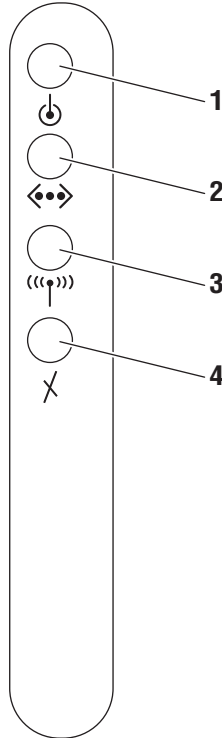
Package Contents

- Xerox WNA-100 Wireless Network Adapter
- Power Supply
- Ethernet Crossover Cable
- Mounting Kit (for attaching the adapter to your Ethernet enabled Xerox product)
- 4 Rubber Bumpers (for desktop placement of the adapter)
- Installation Guide
- Documentation CD-ROM

Note: Please contact Xerox if any of the above items are missing or damaged.

Hardware

Status LEDs



The following table provides an overview of each LED:

LED Number	LED Definition	Color	Description
1	Power	Green	On: Power enabled.
		Orange	Flashing: Internal error.
			Off: No power.
2	Ethernet	Green	On: 10/100 Base Tx Link.
		Green	Flashing: 10/100 Base Tx Data.
			Off: No Ethernet traffic activity.

LED Number	LED Definition	Color	Description
3	Wireless	Green	On: Link > 11 Mbps.
		Green	Flashing: Data > 11 Mbps.
		Orange	On: Link ≤ 11 Mbps.
		Orange	Flashing: Data ≤ 11 Mbps.
			Off: No Wireless network activity.
4	Error	Green	On: Adapter using wired interface.
		Orange	Flashing: Duplicate IP address.
			Off: Adapter using wireless interface.

Power Connector

Only use the power adapter supplied with the Xerox Wireless Network Adapter.

Ethernet Port

Use the included Ethernet crossover cable to connect directly to your PC, and then your Ethernet enabled product.

Default (Reset Button)

A quick press of the **Reset** button prints a configuration page.

To restore the adapter to factory default settings, press and hold the **Reset** button on the rear panel for about 5 seconds until all of the LEDs turn off, then release the button. This is especially useful if you forget the configuration password.

The following table provides the default settings:

Parameter	Setting
IP Address	169.254.111.111
Password	access

Configuring the Adapter

2

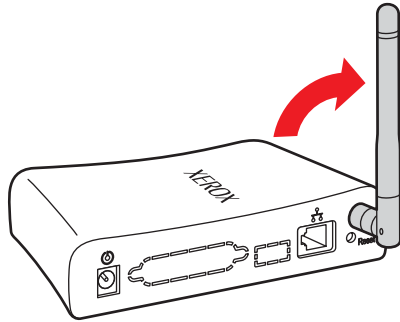
This chapter includes:

- [Setting Up the Adapter](#) on page 2-2
- [Configuring the Adapter Using Your Web Browser](#) on page 2-4
- [Configuring the Screens](#) on page 2-6

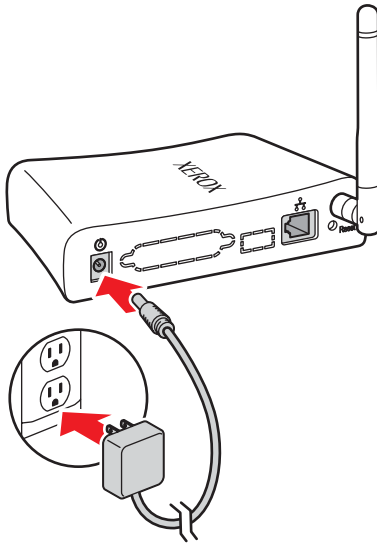
Setting Up the Adapter

To set up your Wireless Network Adapter:

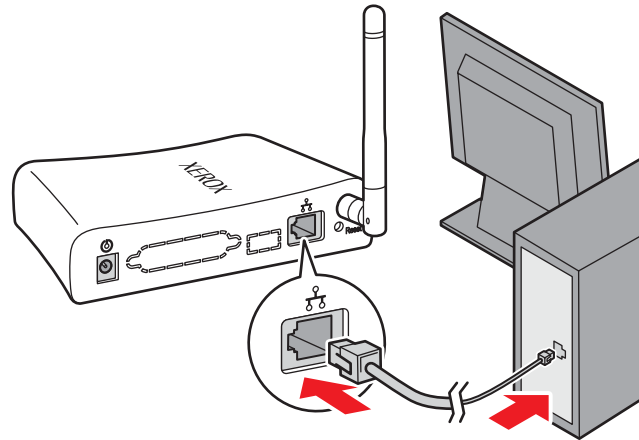
1. Connect the antenna to the adapter.



2. Connect the power cord to the adapter.



3. Connect your host computer to the adapter using the Ethernet crossover cable provided.



Note: The adapter is not intended for use on a switch or hub. The adapter is expecting to be connected to a single device using the Ethernet crossover cable provided.

See also:

Installation Guide at www.xerox.com/office/wna

Configuring the Adapter Using Your Web Browser

A standard web browser like Internet Explorer or Safari must be used for first time configuration of the adapter. The adapter must be connected directly to the PC or other host using the Ethernet crossover cable provided. Once the adapter and PC are connected together, follow these instructions to set up the adapter for your wireless network.

Note: The factory default IP address for the adapter is 169.254.111.111.

1. Make sure your computer is configured to use a network address of 169.254.x.y to communicate with the adapter. For instance, the host computer can be set to the IP address 169.254.111.113.
2. Open your web browser.
3. Type 169.254.111.111 in your browser's address/location bar.
4. The **Status** page appears.

Note: If the **Status** page does not appear in your browser window, then use the back panel **Reset** button to reset the adapter back to factory defaults. Push the **Reset** button and hold for 5 seconds. See [Default \(Reset Button\)](#) on page 1-5 for more information.

See [Troubleshooting Wireless Configuration Problems](#) on page 3-2 for other troubleshooting tips.

5. Click on **WEP Settings**, **WPA Settings**, or **Advanced Settings** under the **Wireless Configuration** folder in the left navigation panel.
6. A **Login Required** screen appears. Enter the default password **access**, and then click the **Log In** button.

Note: You will need to re-enter the password if a session times out after 5 minutes of inactivity.

7. The browser displays the screen you were trying to reach: **WEP Settings**, **WPA Settings**, or **Advanced Settings**. Configure the adapter to operate in your wireless environment.
8. Click on any of the options under the **TCP/IP Configuration** folder in the left navigation panel to configure them to operate in your Ethernet environment.

Note: The factory default BOOTP/DHCP is **Off**. Resetting the adapter will also change this feature to **Off**. If your network requires BOOTP/DHCP, or you need to use an IP address other than the one assigned, you will need to change those settings using this dialog.

9. Click on any of the options under the **Administrative Utilities** folder in the left navigation panel to configure the passwords or other settings, if changes in these settings are needed.
10. Click the **Restart** button in the **Reset** section of the **Administrative Utilities** page.

Do the following if you want to configure the adapter from your wireless network:

1. Click the **Change** button in the **Default Configuration Interface** section of the **Administrative Utilities** page. A secondary dialog box appears.
2. Click the drop-down menu in the secondary dialog box and select **Wireless**.
3. Click the **Submit** button.
4. Click the **Restart** button in the **Reset** section of the **Administrative Utilities** page.

This causes the adapter to accept all the configuration settings you just made. If the Ethernet port is connected to a printer, the adapter prints a page on the printer. This page contains the configuration settings of the adapter.

Do the following after you have configured the adapter to work in your wireless network:

1. Disconnect the Ethernet crossover cable from the host computer.
2. Connect the adapter to the printer using the same cable.
3. Set up your PC for use in your wireless network.

The adapter and printer should be operating on the wireless network. Use the LED lights to indicate the status of the adapter. See [Hardware](#) on page 1-3 for more information.

If your PC is connected to the wireless network, you can type the IP address of the adapter in your browser's address/location bar to see if the adapter is working as expected.

If the adapter or printer are not working as expected, see [Troubleshooting Wireless Configuration Problems](#) on page 3-2.

Optimizing the Wireless Network Connection

Use the following tips to ensure that the adapter is functioning at its best:

- Make sure the antenna is screwed into the adapter before starting configuration. The adapter will not get reception without the antenna.
- Place the wireless adapter in a central location and away from walls and metal objects that may block reception.
- Use a wireless repeater to extend the range of your wireless adapter.
- Avoid using cell phones or other wireless electronics nearby.

Configuring the Screens

The following section describes the user interface screens for the wireless setup. For more information, see the Wireless Network Adapter Online Help.

Status

The **Status** page displays current device status information.

Wireless Configuration

The following configurations allow your wireless device to talk to your wireless network:

- **WEP Settings** (Wireless Encryption Protocol): Security protocol for wireless networks defined by the 802.11b standard.
- **WPA Settings** (Wi-Fi Protected Access): Protocol that improves upon the security features of WEP.
- **EAP Settings** (Extensible Authentication Protocol): Authentication protocol that supports a number of authentication methods.
- **Advanced Settings**: Settings for the radio link configuration.

TCP/IP Configuration

The following configurations define the network configurations of your wireless interface:

- **BOOTP/DHCP Settings** (Dynamic Host Configuration Protocol): Allows for automatic TCP/IP settings.
- **TCP/IP Settings**: Allows you to set your TCP/IP settings if BOOTP/DHCP is disabled. Specifically:
 - IP Address
 - Network Mask
 - Default Router
- **Network Services**: Allows you to enable or disable specific TCP/IP settings:
 - Telnet
 - FTP
 - SNMP
 - DDNS
- **DNS/DDNS Settings** (Dynamic Domain Name Service): Allows you to manually configure your DNS settings and automatic name registration.
- **SSL (HTTPS) Settings**: Secure HTTP allows you to encrypt the transmission to the device during configuration.
- **SNMP Settings** (Simple Network Management Protocol): Allows you to use standard SNMP tools to configure the wireless interface.

Administrative Utilities

- **Change Passwords:** Allows you to change your administration and firmware update passwords.
- **Trusted Root Certificate:** Allows you to view, install, or delete X.509 root certificate that includes a digital signature from Certificate Authority (CA). This is used with wireless security protocols.
- **Device Certificate:** Allows you to view, install, or generate a public key or identity certificate, that uses a digital signature. The device certificate to be used in Extensible Authentication Protocol (EAP) framework when methods such as TTLS-MS-CHAP2 are selected.
- **Update Firmware:** Allows you to update the firmware in the wireless network adapter when new versions are released by Xerox.
- **Default Configuration Interface:** Allows you to change the default configuration interface.
- **Reset:** Allows you to reset the interface or configuration.

Support

The **Support** page lists helpful links on the Xerox website.

Troubleshooting

3

This chapter includes:

- [Troubleshooting Wireless Configuration Problems](#) on page 3-2

See also:

Online Support Assistant at www.xerox.com/office/wna

Troubleshooting Wireless Configuration Problems

Try these options to troubleshoot your wireless configuration problems:

Unable to open the Status page (internal web pages) when the PC and adapter are connected using the supplied Ethernet cable

- Is the power unit securely plugged into the wall?
- Is the power supply cord securely plugged into the adapter?
- Is the Ethernet crossover cable securely plugged into the adapter? (It will click when it is securely plugged in.)
- Is the PC's network connections configured in such a way that it can communicate with the adapter using TCP/IP? For instance, are both the PC and adapter using an IP address of 169.254.x.y?
- Is the correct IP address in the browser? Does the IP address match the IP address of the adapter?
- Is the **Default Configuration Interface** set to **wired**? Check the Error light to be sure.
 - Use the back panel **Reset** button to reset the adapter back to factory defaults. Push the **Reset** button and hold for 5 seconds. After the reset is complete, use the set up instructions in the [Configuring the Adapter Using Your Web Browser](#) on page 2-4 section.

Unable to open the Status page (internal web pages) when the adapter's Default Configuration Interface is set to wireless and the Ethernet cable is disconnected from the PC

- Is the power unit securely plugged into the wall?
- Is the power supply cord securely plugged into the adapter?
- Is the **Default Configuration Interface** set to **wireless**? Check the Error light to be sure.
- Is the PC's network connections set up so that it can communicate with the adapter over TCP/IP? Is the IP address correct? Did the PC acquire an appropriate IP address?
- Are the PC and adapter's wireless settings appropriate for the wireless infrastructure at your site?
 - If you are connected to a printer, you can print an adapter configuration page with a short click of the **Reset** button.
- Is the correct IP address in the browser? Does the IP address match the IP address of the adapter?

The printer does not appear on the network after you connected the adapter

- Is the power unit securely plugged into the wall?
- Is the power supply cord securely plugged into the adapter?
- Is the Ethernet crossover cable securely plugged into the adapter? (It will click when it is securely plugged in.)
- Is the Ethernet crossover cable securely plugged into the printer? (It will click when it is securely plugged in.)
- Is the printer's network configuration correct for the network being used? For example, is the printer's IP address reachable on their network? (You can print out the printer's internal configuration and information page using the control panel.)

One of the best debugging techniques is to start with a very simple set up to get the adapter working. Then add one additional complex feature at a time. Make sure each feature is working before proceeding to the next feature.

Set up the adapter using the following settings. Then change the **SSID** setting. Then change the **Authentication** setting. Then change the **Encryption** setting, etc.

Ethernet Settings on the adapter

- **Mode:** Auto speed detect
- Settings appropriate for the TCP/IP network

Wireless

- **Mode:** Ad-hoc
- **Radio:** 802.11a-b-g
- **Channel:** 11
- **SSID:** Xerox wireless network adapter

Wireless Security

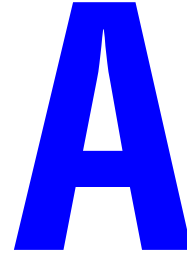
- **Encryption:** None (open system)
- **Authentication:** None (open system)

Online Support Assistant

The Online Support Assistant is a knowledge base that provides instructions and troubleshooting help to solve your adapter problems.

To access the Online Support Assistant, go to www.xerox.com/office/wna.

Adapter Specifications



Physical Specifications

Width: 38 mm (1.5 in.)

Depth: 102 mm (4.0 in.)

Height: 140 mm (5.5 in.)

Weight: 0.23 kg (8 oz.)

Environmental Specifications

Temperature

- Storage: -20-60 degrees C
- Operating: 0-50 degrees C

Relative Humidity

- Storage: 10% – 90%
- Operating: 10% – 90% non-condensing (40% – 60% recommended)

Electrical Specifications

Available in three configurations:

- North America: Part number 097S03740
- United Kingdom: Part number 097S03741 (available in 2007)
- European Union: Part number 097S03742 (available in 2007)

Performance Specifications

Compatibility

- Wired Network: 10 Mbps 10 Base T and 100 Mbps 100 Base Tx full and half duplex operation
- Wireless Network: All modes of 802.11a/b/g from 1 to 54 Mbps

Operating Range

- Indoor: 55 m (180 ft.) at 2.4 GHz
- Outdoor: 25 m (80 ft.) at 5 GHz

Radio Output

- Maximum: 20 dBm at 11 Mbps
- Minimum: 16 dBm at 54 Mbps

Controller Specifications

- 166 MHz processor

Memory

- 2 MB of flash memory
- 4 MB of SDRAM

Interfaces

- Ethernet 10 Base T and 100 Base Tx

Security and Regulations

B

Xerox has tested this product to electromagnetic emission and immunity standards. These standards are designed to mitigate interference caused or received by this product in a typical office environment.

Information for United States Users

This equipment has been tested and found to comply within the limits for Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

The radiated output power of the print server is far below the FCC radio frequency exposure limits. Nevertheless, the print server shall be used in such a manner that the potential for human contact during normal operation is minimized.

To satisfy RF exposure requirements, this device and its antennas must operate with the separation distance of at least 20 centimeters from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End users must be provided with specific operating instructions for satisfying RF exposure compliance.

Declaration of Conformity (FCC)

According to 47CFR, Part 2 and 15 for Class B Personal Computers and Peripherals; and/or CPU Boards and Power Supplies used with Class B Personal Computers, Xerox declares under sole responsibility that the product identified herein, complies with 47CFR Part 2 and 15 of the FCC rules as a Class B digital device FOR HOME OR OFFICE USE. Each product marketed is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on a statistical basis as required by 47 CFR 2.909.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Product: Ethernet and Wireless 802.11a, 802.11b, and 802.11g-enabled print server

Model: WNA-100

Xerox Corporation hereby declares that the equipment specified above conforms to the above requirements.

Standards used and met in the assessment:

- EN55022: 1998 Class B; CFR Title 47, Part 15, Subpart B, Subpart C, and Subpart E.

Information for Canadian Users (IC Notice)

The term “IC” before the radio certification number only signifies that Industry of Canada technical specifications were met. Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

This Class B digital apparatus meets all requirements of the Canadian Interference - Causing Equipment Regulations.

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment that is installed outdoors is subject to licensing.

- i. the device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems;
- ii. the maximum antenna gain permitted (for devices in the bands 5250-5350 MHz and 5470-5725 MHz) to comply with the e.i.r.p. limit; and
- iii. the maximum antenna gain permitted (for devices in the band 5725-5825 MHz) to comply with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate, as stated in section A9.2(3).

Additionally, high-power radars are allocated as primary users (meaning they have priority) of the bands 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LE-LAN devices.

This device has been designed to operate with the antennas listed below, and having a maximum gain of 2.1 dB. Antennas not included in this list or having a gain greater than 2.1 dB are strictly prohibited for use with this device. The required antenna impedance is 50 ohms. Acceptable antennas are: Sansei Electric Co. - ANTB98-061A0

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than the required for successful communication.

Information for European Users

The print server and its built-in 802.11a, 802.11b, and 802.11g wireless technology is in compliance with the Class B Information Technology Equipment requirements and other relevant provisions of European Directive 1999/5/EC. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communications devices. The internal function is a radio device using the 2.4 GHz frequency band (2.400 GHz - 2.4835 GHz). It is intended for wireless communication with other 802.11a, 802.11b, and 802.11g-enabled devices in an indoor environment.

The use of 802.11a, 802.11b, and 802.11g wireless technology in certain countries may be restricted. Before using 802.11x products, please confirm with the frequency management authority in the country where you plan to use it. Many countries allow indoor use only. In Italy, general authorization is required if used outside. In France, the use of certain channels is restricted outdoors. In some situations or environments, the use of 802.11x wireless technology might be restricted by the proprietor of the building or responsible representatives of the organization, for example, in airplanes, hospitals, or in any other environment where the risk of interference with other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies to the use in a specific organization or environment, you are encouraged to ask for authorization to use 802.11x wireless technology prior to switching it on. Consult your physician or the manufacturer of personal medical devices (pacemakers, hearing aids, etc.) regarding any restrictions on the use of 802.11x wireless technology.

Xerox Corporation cannot be responsible for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product.

Declaration of Conformity (CE)

Product: Ethernet and Wireless 802.11a, 802.11b, and 802.11g-enabled print server

Model: WNA-100

Xerox Corporation hereby declares that the above referenced product, to which this declaration relates, is in conformity with the provisions of:

Council Directives 1999/5/EC (March 9, 1999), Radio Equipment and Telecommunications Terminal Equipment.

Standards used and met in the assessment:

- "ETSI EN 55022 Class B (2006)
- "ETSI EN 301 489-1 (V1.6.1, 2005-09)
- "ETSI EN 301 489-17 (V1.3.2, 2008-04)
- "ETSI EN 300 328 (V1.7.1, 2006-10)
- "ETSI EN 301-893 (V 1.4.1, 2007-07)

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