DYNEX™ •••

Wireless N USB Network Adapter

DX-NUSB

Dynex DX-NUSB
Wireless N USB Network Adapter

Contents

Introduction

Thank you for purchasing the Dynex Wireless N USB Network Adapter. Now you can take advantage of this great new technology and gain the freedom to network your home and office computers wirelessly. This network adapter lets you connect a desktop computer or notebook to your network. The easy installation and setup will have you networking wirelessly in minutes. Please be sure to read through this User Guide completely.

Product features

The network adapter complies with the IEEE draft-802.11n specifications in order to communicate with other draft 802.11n-compliant wireless devices at up to 270 Mbps. The network adapter is compatible with all 802.11g devices at 54 Mbps, as well as other 802.11b products at 11 Mbps. The adapter operates on the same 2.4 GHz frequency band as 802.11b Wi-Fi® products.

- 2.4 GHz ISM (Industrial, Science, and Medical) band operation
- Integrated easy-to-use Wireless Networking Utility
- USB interface, for operation in virtually any desktop or notebook computer
- WPA, WPA2, WiFi Protected Setup (WPS), 64-bit WEP (Wired Equivalent Privacy), or 128-bit encryption
- Wireless access to networked resources
- Support for both Infrastructure and Ad-Hoc (peer-to-peer) networking modes
- Data rate of up to 270 Mbps (802.11n), 54 Mbps (802.11g), or 11 Mbps (802.11b)
- Easy installation and use
- External antenna
- LED power and network link activity

Note: The standard transmission rate of 270 Mbps is the physical data rate. Actual data throughput will be lower. Wireless performance may vary depending on the networking environment.

Package contents

- Wireless N USB network adapter
- Desktop adapter base
- Quick Installation Guide
- Installation software CD
- This User Guide

System requirements

- PC-compatible desktop computer with one available USB port and CD/DVD drive
- Windows® 2000, Windows XP, or Windows Vista®

Components

Activity LED

USB adapter

Component	Description
USB adapter	Connects to your computer's USB port or the desktop adapter base.
Activity LED	Lights up and flashes when the network adapter is active

Setting up your wireless network adapter

Windows Vista™

Important note: *Install the software before inserting the card.*

**To install the software and the adapter with Windows Vista:**
 **1** Insert the Installation Software CD into your CD/DVD drive. The *AutoPlay* box opens.

2 Double-click **Run Installer.exe**. If you see a window titled, "An unidentified program wants access to your computer," click **Allow**. The *InstallShield Wizard screen* opens.
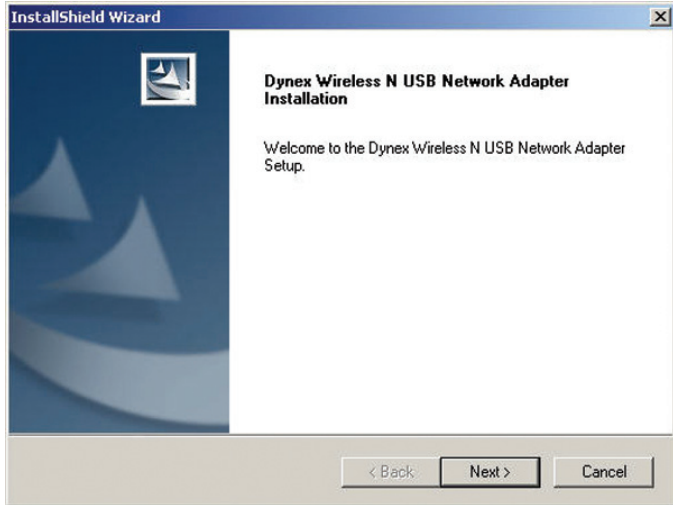
3 Click **Next** to begin the installation process.

You may see a window titled, "Windows can't verify the publisher of this driver software." This is normal and does not indicate a problem. Our software has been fully tested and is compatible with this operating system.
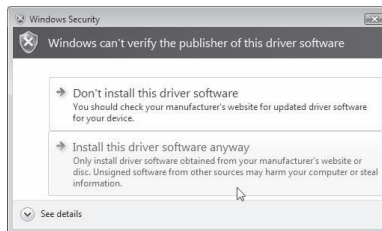
4   Click **Install this driver software anyway**, then, when prompted, plug in your card.

Please plug in your USB Adapter now.
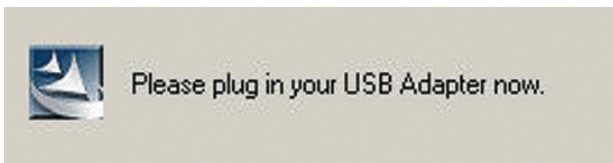
When the installation completes, the *InstallShield Wizard Complete* screen opens.

InstallShield Wizard

InstallShield Wizard Complete

Setup has finished installing Dynex N USB Adapter
Software on your computer.

< Back   Finish   Cancel

5   Click **Finish**. Your installation is now complete.

6   To connect to the Internet, open the Network and Sharing Center by clicking **Start**,
    Control Panel, **Network and Internet - View network status and tasks**. The
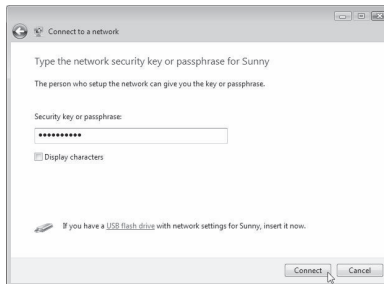   *Network and Sharing Center* opens.
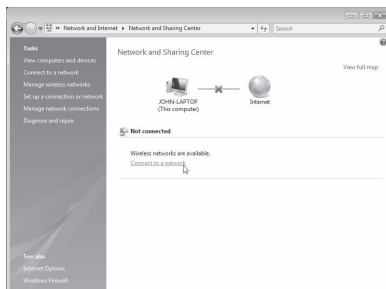
**7** Click **Connect to a network**. The *Connect to a network* screen opens.

8 Select an available wireless network, then click **Connect**. Your card attempts to connect to the selected network.
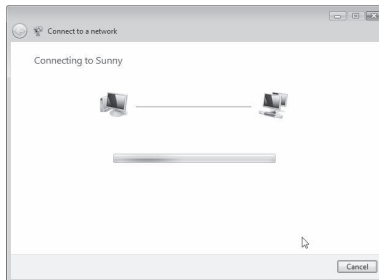
9 Depending on the security settings of your wireless network, you may be prompted to enter in a network security key or a passphrase.

**10** Enter the network security key or passphrase, then click **Connect**. The successful connection screen opens.
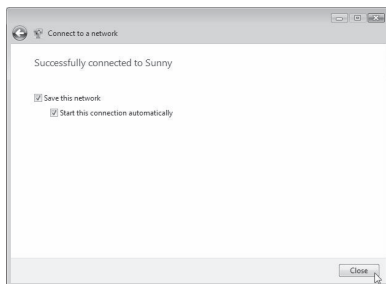
After connecting to the network, you may choose to save this network and connect automatically after your card is in range.

The *Network and Sharing Center* should now show the network connection that you have just made. The links on the left of the window let you configure your network connections.
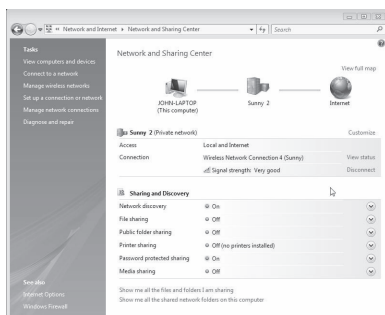
All other Windows versions

Important note: Install the software before inserting the card.

To install the software:

1 Insert the Installation Software CD into your computer's CD/DVD drive. The *InstallShield Wizard Welcome* screen opens.

Note: If the InstallShield Wizard Welcome screen does not open, double-click **My Computer**, then double-click the CD/DVD drive where the installation CD was placed. Double-click the **Files** folder, then double-click **setup.exe**.
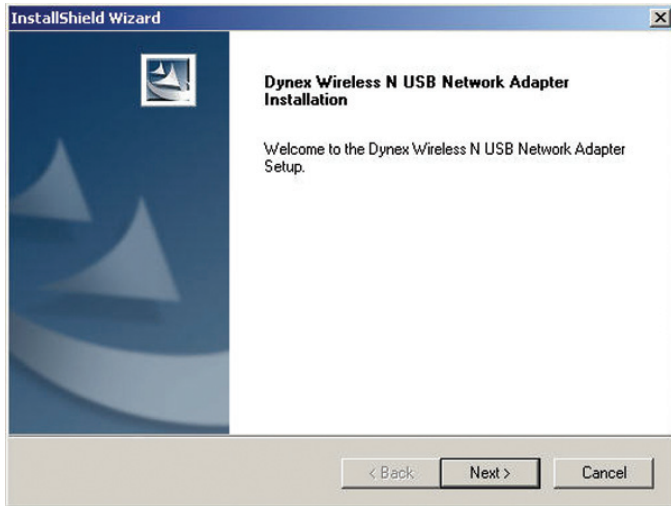
2 Click **Next**. The *Choose Destination Location* screen opens.
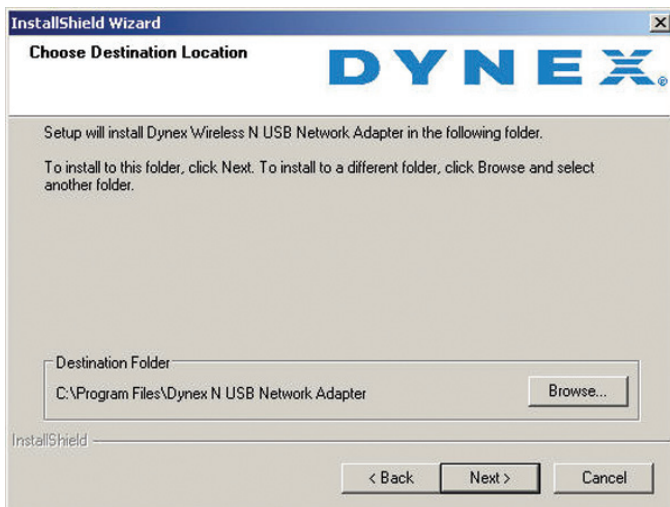
3 Click **Next**. The *Please plug in your USB Adapter now* screen opens.
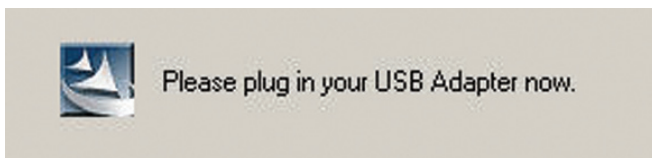
*Note: If at any time during the install a warning appears that the software has not passed Windows® logo testing, click the **Continue anyway** button to proceed. This software is designed to run on Windows.*

4 Firmly insert the USB adapter into an available USB slot. The *Welcome to the Found New Hardware Wizard Welcome* screen opens.
Note: *If your system did not prompt you to insert your Card, do so now.*

5 Click **No, not this time**, then click **Next**. The *Found New Hardware Wizard Install* screen opens.
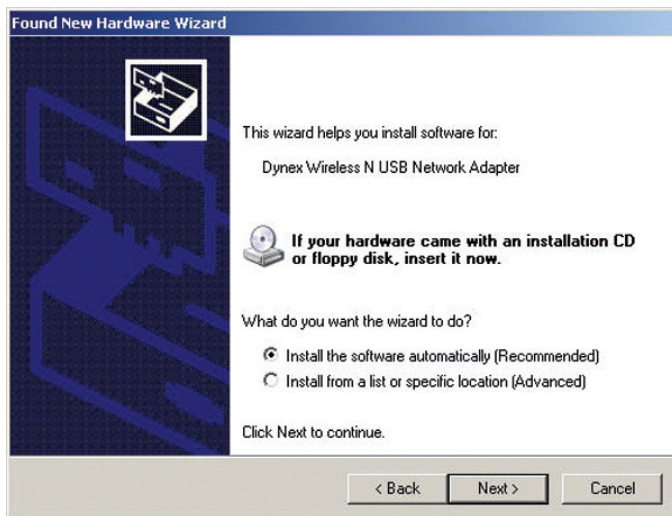
6 Click **Install the software automatically (Recommended)**, then click **Next**. The *Completing the Found New Hardware Wizard* opens.

7 Click **Finish**. The *Setup has finished installing* screen opens.
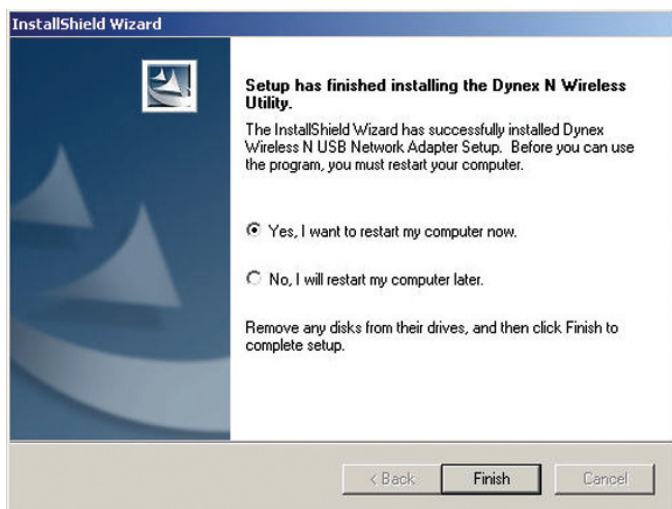
8 Click **Yes, I want to restart my computer now**, then click **Finish**. Your computer will restart and the Dynex Wireless Networking Utility opens.
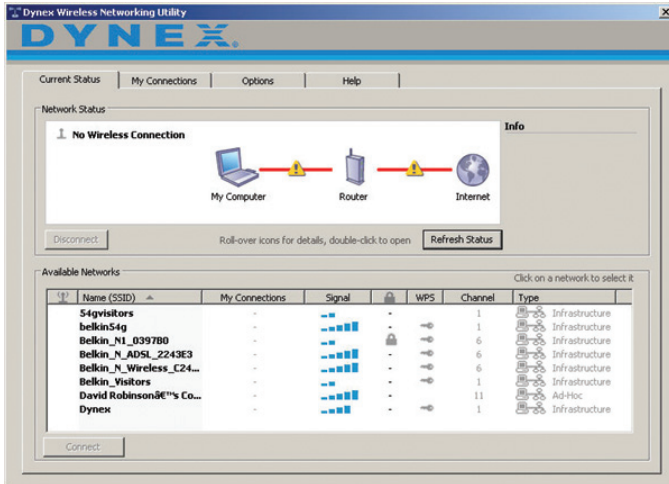
Note: In order to see your available networks, you must be near a working wireless router.

9 Select a network to connect to from the **Available Networks** list, then click **Connect**.

Note: If the Dynex Wireless Networking Utility did not open automatically, double-click the Wireless Utility icon in the system tray near the clock.

Windows Vista™ Users: Connect to a wireless network through the **Network and Sharing Center**, accessible through your computer's **Control Panel**.

Connecting to your network

To use the wireless networking utility:

1 After restarting your computer, double-click the Wireless Networking Utility (WNU) icon located on the desktop screen.

2 The WNU screen will appear. Select a network to connect to by selecting a network from the **Available Networks** list, then click **Connect**.
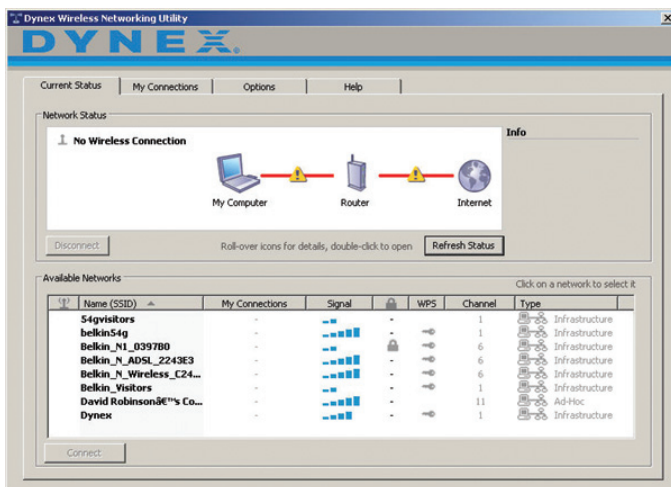
Note: In order to see your available networks, you must be near a working wireless router (or access point).

3 The WNU icon can also be found on the system tray.

Note: Double-clicking on the WNU icon on the system tray will bring up the Utility screen.

Accessing the wireless networking utility

To access the WNU from the Windows system tray:
  • Right-click the WNU icon on the Windows system tray in the lower right corner of the desktop.

If the icon is not present, click on **Start**, **Programs**, **Dynex, Wireless Networking Utility**.
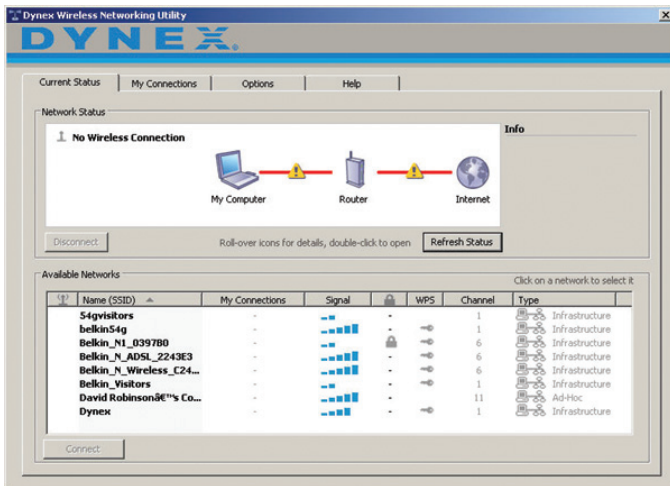
The WNU's default screen is the **Current Status** tab, which displays the current network status and available networks.

Network Status

This area displays the connectivity status of the current network, between the computer and router and between the router and the Internet. In the event of a problem, use the *Network Status* area to determine the source (for example, computer, router, or Internet/modem).

Available Networks

This area displays the available networks at the current location as well as the SSID, Signal Strength, Security Type, Channel, and Network Type.

Lost Wireless Connection

If the current wireless connection is lost, a window opens and the WNU attempts to reconnect.

Connection Failure

Other options will appear during attempts to reconnect. To stop trying to connect, click **Stop**. To re-try connecting, click **Retry**.

Network Status and Solution Tips

To further understand the current Network Status, click **Open Wireless Utility**. The default screen is the **Current Status** tab and the **Network Status** section determines which connections are good or faulty.
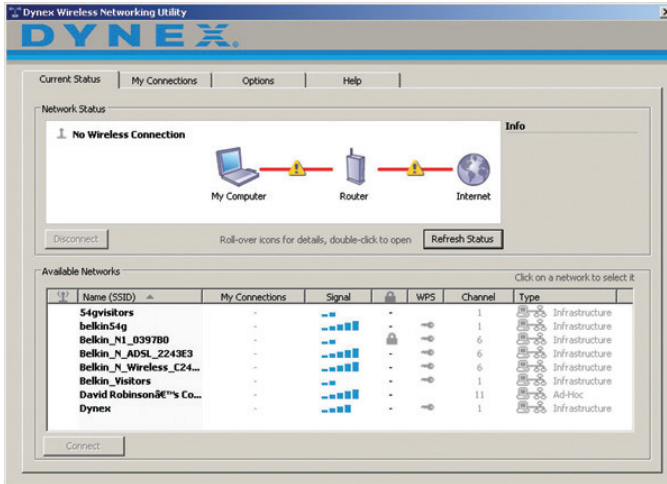
Setting Wireless Network Profiles

The **My Connections** tab on the WNU lets you add, edit, and delete connection profiles. It also displays signal strength, security, and network type.
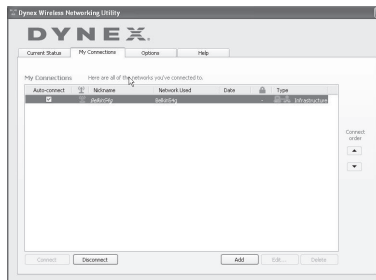
Securing your Wi-Fi® Network

If your router has security (WEP or WPA) set, you will see this box when you try to connect. When this box opens, type the encryption key you set on your router, then click **Connect**.

The next few pages are advanced options of setting the security through the adapter instead of the router.
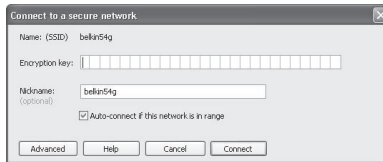
*Note: When you select a network using encryption, you will first see the simple security screen. Click the **Advanced** button to see other security options (below).*
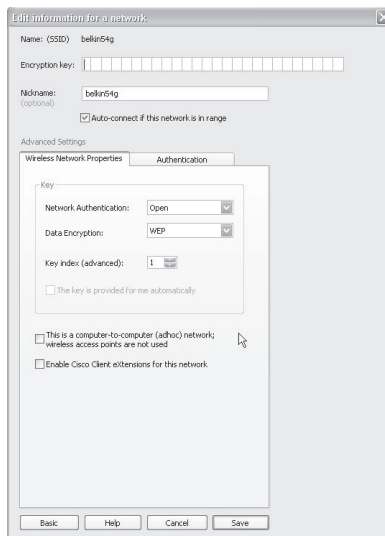
Wireless Equivalent Privacy (WEP) is a less secure, but more widely adopted wireless security protocol. Depending on the security level (64- or 128-bit), the user will be asked to input a 10- or 26-character hex key. A hex key is a combination of letters, a–f, and numbers, 0–9.

Wi-Fi Protected Access (WPA) is the new standard in the wireless security. However, not all wireless cards and adapters support this technology. Please check your wireless adapter's user guide to check if it supports WPA. Instead of a hex key, WPA uses only passphrases, which are much easier to remember.

The following section, intended for the home, home office, and small office user, presents a few different ways to maximize the security of your wireless network.

Currently, there are four encryption methods available:

	64-Bit Wired Equivalent Privacy	**128-Bit Wired Equivalent Privacy**	**Wi-Fi Protected Access-TKIP**	**Wi-Fi Protected Access 2**
Acronym	64-bit WEP	128-bit WEP	WPA-TKIP/AES (or just WPA)	WPA2-AES (or just WPA2)
Security	Good	Better	Best	Best
Features	Static keys	Static keys	Dynamic key encryption and mutual authentication	Dynamic key encryption and mutual authentication
	Encryption keys based on RC4 algorithm (typically 40-bit keys)	More secure than 64-bit WEP using a key length of 104 bits plus 24 additional bits of system generated data	TKIP (Temporal Key Integrity Protocol) added so that keys are rotated and encryption is strengthened	AES (Advanced Encryption Standard) does not cause any throughput loss

WEP

WEP is a common protocol that adds security to all Wi-Fi-compliant wireless products. WEP gives wireless networks the equivalent level of privacy protection as a comparable wired network.

WEP Encryption Keys—After selecting either the 64-bit or 128-bit WEP encryption mode, it is critical that you generate an encryption key. If the encryption key is not consistent throughout the entire wireless network, your wireless networking devices will be unable to communicate with one another. You can enter your key by typing in the hex key manually, or you can type a passphrase into the "Passphrase" field and click "Generate" to create a key. A hex (hexadecimal) key is a combination of numbers and letters from A–F and 0–9. For 64-bit WEP, you need to enter 10 hex characters. For 128-bit WEP, you need to enter 26 hex characters.

For instance:

AF 0F 4B C3 D4 = 64-bit WEP key

C3 03 0F AF 0F 4B B2 C3 D4 4B C3 D4 E7 = 128-bit WEP key

The WEP passphrase is NOT the same as a WEP key. Your network adapter uses this passphrase to generate your WEP keys, but different hardware manufacturers might have different methods on generating the keys. If you have multiple vendors' equipment in your network, the easiest thing to do is to use the hex WEP key from your wireless router (or access point) and enter it manually into the hex WEP key table in your network adapter's configuration screen.

WPA

WPA is a new Wi-Fi standard that improves upon the security features of WEP. To use WPA security, the drivers and software of your wireless equipment must be upgraded to support it. These updates will be found on your wireless vendor's Web site. There are three types of WPA security: WPA-PSK (no server), WPA (with radius server), and WPA2.

WPA-PSK (no server) uses what is known as a pre-shared key as the network key. A network key is a password that is between eight and 63 characters long. It can be a combination of letters, numbers, or characters. Each client uses the same network key to access the network. Typically, this is the mode that will be used in a home environment.

WPA (with radius server) is a system where a radius server distributes the network key to the clients automatically. This is typically found in a business environment.

WPA2 requires Advanced Encryption Standard (AES) for encryption of data, which offers much greater security than WPA. WPA uses both Temporal Key Integrity Protocol (TKIP) and AES for encryption.

Most Wi-Fi products ship with security turned off. So once you have your network working, you need to activate WEP or WPA and make sure all your wireless devices are sharing the same network key.

IMPORTANT: You must now set all wireless network cards/adapters to match these settings.

Configuring your Wireless N USB adapter to use security

You should already have your wireless router set to use WPA or WEP. To make a wireless connection you need to set your Wireless N USB network adapter to use the same security settings.

Changing the Wireless Security Settings

The Wireless N USB network adapter supports the latest WPA security feature as well as the legacy WEP security standard. By default, wireless security is disabled.

Your Dynex wireless adapter is equipped with the latest security standard called Wi-Fi Protected Access 2 (WPA2™) and the legacy security standard called Wired Equivalent Privacy (WEP). It also supports the Wi-Fi Protected Setup (WPS) specification, which simplifies the setup of a wireless network. WPS uses familiar methodologies, such as typing in a Personal Identification Number (PIN) or pushing a button, to enable you to automatically configure network names and strong WPA/WPA2 data encryption and authentication.

Using Wi-Fi protected setup:

- Encryption key if not using WPS
- Personal Identification Number (PIN) method: Your wireless adapter generates a PIN to be entered into your router.
- Push Button Configuration (PBC) method: Your wireless adapter can also connect by using the software pushbutton.
- Manual configuration method: This section lists the default security settings to be set if you are not using WPS.

WPS uses WPA2 for encryption. It does not provide additional security, but standardized the method for securing your wireless network. On your client utility, WPS-enabled networks are indicated by a key icon. You can use either the PBC method or the PIN method to let a device access your wireless network.

To use the PBC method:
   1 Push and hold the WPS button (located on the back of your router) for three seconds. Initiate the WPS procedure on the client utility within two minutes.
   2 Open the WNU and select the network name, then click **Connect**. Your client automatically exchanges security information and is added to your wireless network. You can also initiate the PBS method from the client side.

To use the PIN method:
   1 Open the WNU and select the WPS-enabled network, then click **Connect**.
   2 Choose the PIN method option, then complete the WPS procedure on your router. Your client is automatically enrolled in your wireless network within two minutes.

To enable security, you will first need to determine which standard is used by the router. (See your wireless router's guide for directions on how to access the security settings.)

To access the security settings on your card:
   1 Open the WNU.
   2 Click the **My Connections** tab, then click the connection you want to change.
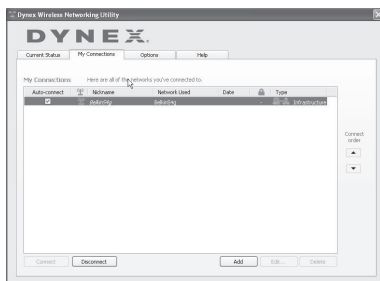
   3 Click **Edit**, then click **Advanced** to change settings.

To access the security settings on your network adapter, click the **My Connections** tab and point to the connection for which you want to change security settings. Click **Edit** to change settings.

Setting up WEP

To set up 64-Bit WEP encryption:
   1 Select **OPEN** from the *Network Authentication* menu on the **Wireless Network Properties** tab on the *Edit information for a network* page.
   2 Select **WEP** from the *Data Encryption* menu.

3 After selecting your WEP encryption mode, enter your key by typing in the hex key manually, or type in a passphrase in the **Passphrase** field, then click **Generate** to create a key.

A hex (hexadecimal) key is a combination of numbers and letters from A–F and 0–9. For 64-bit WEP, you need to enter 10 hex characters.

For instance:

AF 0F 4B C3 D4 = 64-bit WEP key

4 Click **Save** to finish. Encryption in the wireless router is now set. Each of your computers on your wireless network will now need to be configured with the same security settings.

Caution: If you are using a wireless client to turn on the security settings in your wireless router, you will temporarily lose your wireless connection until you activate security on your wireless client. Please record the key prior to applying changes in the wireless router. If you don't remember the hex key, your client will be locked out of the wireless router.
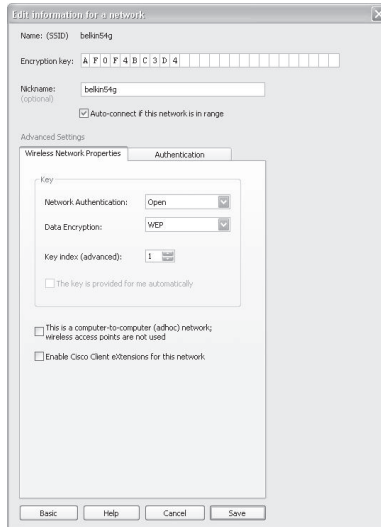
Setting up 128-bit WEP encryption:
1 Select **OPEN** from the *Network Authentication* menu on the **Wireless Network Properties** tab on the *Edit information for a network* page.
2 Select **WEP** from the *Data Encryption* menu.

3 After selecting your WEP encryption mode, enter your key by typing in the hex key manually, or type in a passphrase in the **Passphrase** field, then click **Generate** to create a key.

A hex (hexadecimal) key is a combination of numbers and letters from A–F and 0–9. For 128-bit WEP, you need to enter 26 hex characters.

For instance:

C3 03 0F AF 0F 4B B2 C3 D4 4B C3 D4 E7 = 128-bit WEP key
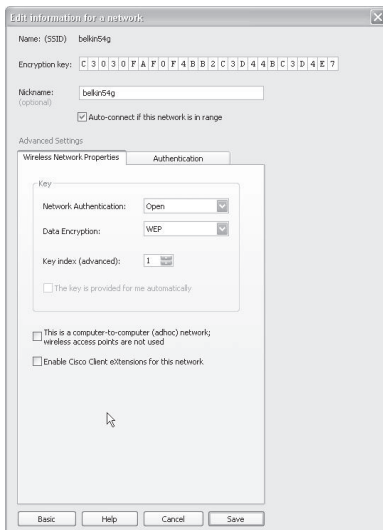
4 Click **Save** to finish. Encryption in the wireless router (or access point) is now set. Each of your computers on your wireless network will now need to be configured with the same security settings.

Caution: If you are using a wireless client to turn on the security settings in your wireless router, you will temporarily lose your wireless connection until you activate security on your wireless client. Please record the key prior to applying changes in the wireless router. If you don't remember the hex key, your client will be locked out of the wireless router.

To set up WPA-PSK (no server):

Note: Choose this setting if your network does not use a radius server. WPA-PSK or WPA2-PSK (no server) is typically used in home and small office networking.

1 Select **WPA-PSK** or **WPA2-PSK (no server)** from the *Network Authentication* menu on the **Wireless Network Properties** tab on the *Edit information for a network* page.

2 Select **TKIP** or **AES** from the list.

3 Enter your network key. This can be from eight to 63 characters and can be letters, numbers, or symbols. This same key must be used on all of the clients (network cards) that you want to include in your network.
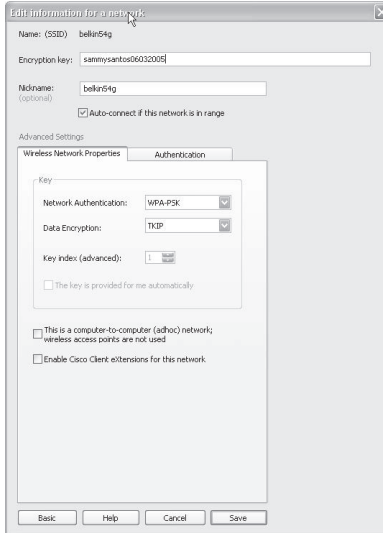
4 Click **Save** to finish. You must now set all clients (network cards) to match these settings.

Wireless networking utility options

The **Options** tab on the Wireless Networking Utility (WNU) lets you customize your WNU settings.
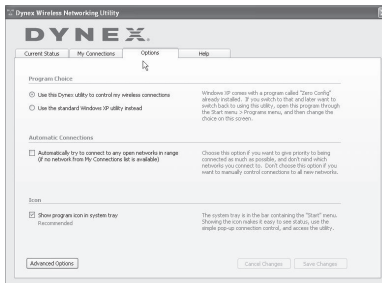
WNU Help

The WNU **Help** tab lets you access online and telephone support, as well as advanced diagnostic tools.
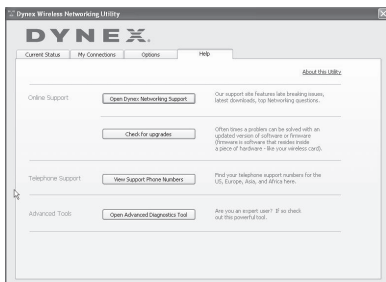
Advanced diagnostic tools

The **Advanced Diagnostic Tools** section is the central control panel for all the settings of the hardware and software components of the wireless network. It provides an array of tests and connectivity services to ensure optimal network performance.
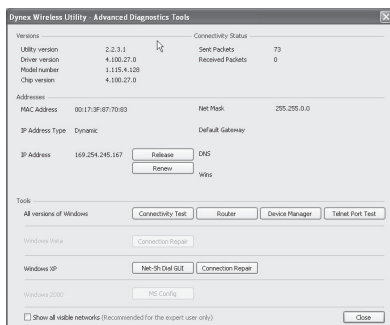
Troubleshooting

Placement of your wireless networking hardware for optimal performance

Your wireless connection will be stronger the closer your computer is to your wireless router (or access point). Typical indoor operating range for your wireless devices is between 100 and 200 feet. In the same way, your wireless connection and performance will degrade somewhat as the distance between your wireless router (or access point) and connected devices increases. This may or may not be noticeable to you. As you move farther from your wireless router (or access point), connection speed may decrease.

Factors that can weaken signals simply by getting in the way of your network's radio waves are metal appliances, obstructions, and walls.

If you have concerns about your network's performance that might be related to range or obstruction factors, try moving the computer to a position between five and 10 feet from the wireless router (or access point) in order to see if distance is the problem. If difficulties persist, refer to the user guide for your wireless router.

> *Note*: *While some of the items listed below can affect network performance, they will not prohibit your wireless network from functioning. If you are concerned that your network is not operating at its maximum effectiveness, this checklist may help.*

You cannot connect to the Internet wirelessly

If you are unable to connect to the Internet from a wireless computer, check the following items:

- Look at the lights on your wireless router. If you're using a Dynex Wireless Router, the lights should be as follows:
  - The power light should be on.
  - The connected light should be on, and not blinking.
  - The WAN light should be either on or blinking.
- Open your Wireless Networking Utility (WNU) software by clicking on the icon in the system tray at the bottom right corner of the screen. The tray icon should look like this (the icon may be red or green):

- The window that opens should have a list of **Available Networks**. Available networks are wireless networks to which you can connect.

  If you are using a Dynex 802.11n router, **Dynex** is the default name.

  If you are using a Dynex 802.11g (54g) router, **Dynex54g** is the default name.

  If you are using a Dynex 802.11b router, the default name should be **WLAN**.

  If you are NOT using a Dynex router, please consult your router manufacturer's user guide for the default name.

  The name of your wireless network appears in **Available Networks** list.

If the correct network name is listed in the Available Networks list, follow these steps to connect wirelessly:

1 Click on the correct network name in the **Available Networks** list.
2 If the network has security (encryption) enabled, enter the network key. For more information regarding security, see "Securing your Wi-Fi® Network" on page 17.
3 Within a few seconds, the tray icon in the lower right corner of your screen should turn green, indicating a successful connection to the network.

The name of your wireless network DOES NOT appear in the list of Available Networks.

If the correct network name is not listed under "Available Networks" in the WNU, try the following troubleshooting steps:

   1   Temporarily move the computer, if possible, to 5 to 10 feet away from the wireless router. Close the WNU and reopen it. If the correct network name now appears under **Available Networks**, you may have a range or interference problem. See the suggestions listed in "Placement of your wireless networking hardware for optimal performance" on page 24.

   2   Using a computer that is connected to the wireless router through a network cable (as opposed to wirelessly), make sure that **Broadcast SSID** is enabled. This setting is found on the router's wireless **Channel and SSID** configuration page. For detailed instructions on accessing this page and changing settings, refer to the user guide for your wireless router.

The installation CD does not start WNU

If the installation CD does not start the WNU automatically, it could be that the computer is running other applications that are interfering with the CD drive.

To start the installation manually:

   1   If the WNU screen does not appear within 15-20 seconds, open up your CD drive by double-clicking on the **My Computer** icon.

   2   Double-click on the CD drive that the installation CD has been placed in to start the installation.

   3   Double-click the **Files** folder, then double-click the **Setup.exe** icon.

The power LED does not come ON. The network adapter is not working

If the LED indicators are not ON, the problem may be that the network adapter is not connected or is not installed correctly.

Make sure that the network adapter is plugged firmly into the USB port of your computer. Check to see that the drivers for the network adapter have been installed. Right-click on the **My Computer** icon on your desktop. Choose **Properties** and navigate to the **Device Manager** and see if your network adapter is listed without any errors. If an error is indicated, contact Technical Support.

The link LED is blinking slowly. You cannot connect to a wireless network or the Internet

If your network adapter appears to be functioning correctly, but you cannot connect to a network or you have a red wireless icon at the bottom of your screen, the problem may be that there is a mismatch between the network name (SSID) settings in your wireless network properties.

Check the SSID settings to see if they match. The SSID is case-sensitive and the spelling on each computer must be exactly the same in order for the network adapter to connect to the wireless router (or access point).

> ***Note***: *To check the SSID settings or look for an available network, double-click the **Signal Indicator** icon to bring up the Wireless Networks screen. Click **Add** if you do not see the network you are trying to connect to and type in the SSID.*

For more information about setting up an SSID, please refer to your router manufacturer's user guide.

Link LED is solid, but I cannot connect to the Internet

If you have a signal but cannot get online or obtain an IP address, the problem may be that there is a mismatch between the encryption key settings in your computer and wireless router.

Check the WEP key settings to see if they match. The key is case-sensitive and the spelling on each computer and wireless router must be exactly the same in order for the network adapter to connect to the router (or access point). For more information about encryption, please see "Securing your Wi-Fi® Network" on page 17.

Data transfer is sometimes slow or signal strength is poor

Wireless technology is radio-based, which means connectivity and the throughput performance between devices decreases when the distance between devices increases. Other factors that cause signal degradation are obstructions such as walls and metal appliances. As a result, the typical indoor range of your wireless devices will be between 100 to 200 feet. Note also that connection speed may decrease as you move farther from the wireless router (or access point).

In order to determine if wireless issues are related to range, we suggest temporarily moving the computer, if possible, to 5 to 10 feet away from the wireless router. See "Placement of your wireless networking hardware for optimal performance" on page 24.

Changing the wireless channel - Depending on local wireless traffic and interference, switching the wireless channel of your network can improve performance and reliability. The default channel the router is shipped with is channel 11. You may choose from several other channels depending on your region; see your router's (or access point's) user manual for instructions on how to choose other channels.

Limiting the wireless transmit rate - Limiting the wireless transmit rate can help improve the maximum wireless range, and connection stability. Most wireless cards have the ability to limit the transmission rate. To change this property, click **Start**, **Control Panel**, **Network Connections**, then double-click your card's connection. In the *Properties* dialog, select the **Configure** button on the **General** tab (Windows 98 users will have to select the Wireless Card in the list box and then click **Properties**), then choose the **Advanced** tab and select the rate property. Wireless client cards are usually set to automatically adjust the wireless transmit rate for you, but doing so can cause periodic disconnects when the wireless signal is too weak; as a rule, slower transmission rates are more stable. Experiment with different connection rates until you find the best one for your environment; note that all available transmission rates should be acceptable for browsing the Internet. For more assistance, see your wireless card's literature.

Why are there two wireless utilities in my system tray? Which one should I use?

There are several features and advantages to using the WNU over the Windows XP Wireless Zero Configuration utility. We offer a site survey, detailed link information, and adapter diagnosis, to name a few.

It's essential to know which utility is managing your adapter. We recommend using the WNU.

To use the WNU:
  1 Right-click on the network status icon in the system tray and select **View Available Wireless Networks**.
  2 Click **Advanced** in the lower left-hand corner of the *Available Wireless Networks* window.
  3 From the **Advanced** tab, uncheck **Use Windows to configure my wireless network**. After the box is unchecked, click **OK** to close the window.
     You are now using the WNU to configure the network adapter.

What's the difference between 802.11b, 802.11g, 802.11a, and 802.11n?

Currently there are four levels of wireless networking standards, which transmit data at very different maximum speeds. Each is based on the designation for certifying network standards. The most common wireless networking standard, 802.11b, transmits information at 11 Mbps; 802.11a and 802.11g work at 54 Mbps; and Pre-N works at 108 Mbps. The 802.11n release promises speeds that exceed 802.11g, and up to twice the wireless coverage area. See the following chart for more detailed information.

Wireless Technology	802.11b	802.11g	802.11a	802.11n
Speed	11Mbps	54Mbps	54Mbps	600% faster than standard 802.11g*
Frequency	Common household devices such as cordless phones and microwave ovens may interfere with the unlicensed band 2.4GHz	Common household devices such as cordless phones and microwave ovens may interfere with the unlicensed band 2.4GHz	5GHz- uncrowded band	Common household devices such as cordless phones and microwave ovens may interfere with the unlicensed band 2.4GHz
Compatibility	Compatible with 802.11g	Compatible with 802.11b	Incompatible with 802.11b or 802.11g	Compatible with 802.11g or 802.11b
Coverage*	Depends on interference-typically 100-200 ft. indoors	Depends on interference-typically 100-200 ft. indoors	Interference range is typically 50-100 ft.	Up to 800% wider coverage than standard 802.11g*
Advantage	Mature-legacy technology	Common-widespread use for Internet sharing	Less interference-great for multimedia application	Leading edge- best coverage and throughput

*Distance and connection speeds will vary depending on your networking environment.

Specifications

Host Interface	USB 2.0 interface
Power Consumption	Tx/Re peak 510/250mA @ 3.3VDC (max.)
Operating Temperature	32 to 140° F (0 to 60° C)
Storage Temperature	-4 to 176° F (-20 to 80° C)
Humidity	Max. 90% (non-condensing)
Typical Operating Range	100–200 ft. (30–60 m) indoors

Legal notices

FCC Statement

DECLARATION OF CONFORMITY WITH FCC RULES FOR ELECTROMAGNETIC COMPATIBILITY

We, the Dynex Corporation, 7601 Penn Avenue South, Richfield, Minnesota, U.S.A., declare under our sole responsibility that the product, DX-NUSB, to which this declaration relates, complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Exposure to Radio Frequency Radiation.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain compliance with FCC RF exposure compliance requirements, please follow operation instruction as documented in this manual.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

SAR compliance has been established in typical laptop computer(s) with Card Bus, and product could be used in typical laptop computer with USB slot. Other application like handheld PC or similar device has not been verified and may not compliance with related RF exposure rule and such use shall be prohibited.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

FCC warning

Changes or modifications not expressly approved by the party responsible for compliance with the FCC Rules could void the user's authority to operate this equipment.

DHHS and FDA safety certification

This product is made and tested to meet safety standards of the FCC, requirements and compliance with safety performance of the U.S.Department of Health and Human Services, and also with FDA Radiation Performance Standards21 CFR SubchapterJ.

Canada ICES-003 statement

This Class B digital apparatus complies with Canadian ICES-003.

FCC Part 15

This device complies with Part15 of the FCC Rules. Operation of this product is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Legal notice

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

Industry Canada statement:

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain compliance with IC RF exposure compliance requirements, please follow operation instruction as documented in this manual.

One-Year Limited Warranty

Dynex Products ("Dynex") warrants to you, the original purchaser of this new **DX-NUSB** ("Product"), that the Product shall be free of defects in the original manufacture of the material or workmanship for a period of one (1) year from the date of your purchase of the Product ("Warranty Period"). This Product must be purchased from an authorized dealer of Dynex brand Products and packaged with this warranty statement. This warranty does not cover refurbished product. If you notify Dynex during the Warranty Period of a defect covered by this warranty that requires service, terms of this warranty apply.

How long does the coverage last?

The Warranty Period lasts for one year (365 days) from the date you purchased the Product. The purchase date is printed on the receipt you received with the Product.

What does this warranty cover?

During the Warranty Period, if the original manufacture of the material or workmanship of the Product is determined to be defective by an authorized Dynex repair center or store personnel, Dynex will (at its sole option): (1) repair the Product with new or rebuilt parts; or (2) replace the Product at no charge with new or rebuilt comparable products or parts. Products and parts replaced under this warranty become the property of Dynex and are not returned to you. If service of products and parts are required after the Warranty Period expires, you must pay all labor and parts charges. This warranty lasts as long as you own your Dynex Product during the Warranty Period. Warranty coverage terminates if you sell or otherwise transfer the Product.

How to obtain warranty service?

If you purchased the Product at a retail store location, take your original receipt and the Product to the store you purchased it from. Make sure that you place the Product in its original packaging or packaging that provides the same amount of protection as the original packaging. If you purchased the Product from an online web site, mail your original receipt and the Product to the address listed on the web site. Make sure that you put the Product in its original packaging or packaging that provides the same amount of protection as the original packaging.

To obtain in-home warranty service for a television with a screen 25 inches or larger, call 1-888-BESTBUY. Call agents will diagnose and correct the issue over the phone or will have an Dynex-approved repair person dispatched to your home.

Where is the warranty valid?

This warranty is valid only to the original purchaser of the Product in the United States, Canada, and Mexico.

What does the warranty not cover?

This warranty does not cover:

- Customer instruction
- Installation
- Set up adjustments
- Cosmetic damage
- Damage due to acts of God, such as lightning strikes
- Accident
- Misuse
- Abuse
- Negligence
- Commercial use
- Modification of any part of the Product
- Plasma display panel damaged by static (non-moving) images applied for lengthy periods (burn-in).

This warranty also does not cover:

- Damage due to incorrect operation or maintenance
- Connection to an incorrect voltage supply
- Attempted repair by anyone other than a facility authorized by Dynex to service the Product
- Products sold as is or with all faults
- Consumables, such as fuses or batteries
- Products where the factory applied serial number has been altered or removed

REPAIR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS YOUR EXCLUSIVE REMEDY. DYNEX SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT, INCLUDING, BUT NOT LIMITED TO, LOST DATA, LOSS OF USE OF YOUR PRODUCT, LOST BUSINESS OR LOST PROFITS. DYNEX PRODUCTS MAKES NO OTHER EXPRESS WARRANTIES WITH RESPECT TO THE PRODUCT, ALL EXPRESS AND IMPLIED WARRANTIES FOR THE PRODUCT, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF AND CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE WARRANTY PERIOD SET FORTH ABOVE AND NO WARRANTIES, WHETHER EXPRESS OR IMPLIED, WILL APPLY AFTER THE WARRANTY PERIOD. SOME STATES, PROVINCES AND JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE OR PROVINCE TO PROVINCE.

Contact Dynex:

For customer service please call 1-800-305-2204
www.dynexproducts.com

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