



## INSTALLATION INSTRUCTIONS FOR MacWireless 11n PCI Card

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### Introduction

Thank you for purchasing the MacWireless 11n PCI Card! The 11n PCI Card requires OS 10.3 or higher. We have provided configuration instructions for OS 10.3.x, OS 10.4.x, and OS 10.5.x. When following the instructions below, be sure to choose the correct configuration section for your operating system.

Please uninstall any drivers or software from previous wireless networking devices before proceeding with the installation. If you experience a problem during the installation, refer to the troubleshooting guide at the end of this document. We also recommend updating your operating system to the latest version. Free updates are available using Apple menu > Software Update and at [www.apple.com](http://www.apple.com).

### Installation

#### Hardware Installation

1. Turn your computer off.
2. If there is an AirPort card in the computer, remove it.
3. Open the tower of your computer and locate an available PCI slot, as shown in Figure 1 on the reverse side of this sheet.
4. Locate the metal plate at the end of the slot and remove it, as shown in Figure 2 on the reverse side of this sheet.
5. Handling the PCI card by its edges, insert it completely into the PCI slot so that the antenna port is on the outside of the machine. Please note that the slot may be longer than the card.
6. Secure the card in place using the original screw.
7. Attach antenna to PCI card.
8. Power on the computer.
9. Installation is complete! Move on to the configuration section below.

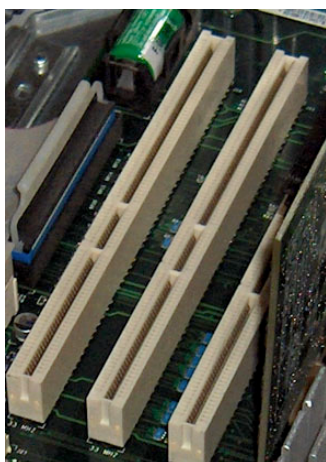


Figure 1 - PCI Slots

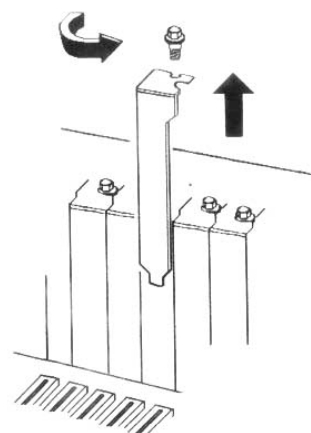


Figure 2 - Removal of Metal Plate

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## Software Installation

1. Insert the MacWireless Drivers and Utilities CD into your computer.
2. Open Finder and navigate to MacWireless CD > Wireless Cards > PCI Cards > 11n PCI Card.
3. There are three versions of the installer, one for OS 10.3, one for OS 10.4, and one for OS 10.5. be sure to choose the correct installer for your operating system. If you are uncertain which operating system you are using, go to Apple menu > About This Mac. The version is shown directly beneath the Apple logo and "Mac OS X."
4. Double click the appropriate installer package.
5. A window will open introducing the installer. Click continue.
6. Select a destination volume for the installer and click continue.
7. Click install. If you are asked for a password, enter your administrator password and click OK.
8. When the installer has finished, click restart.

## Configuration

### 10.3.x, 10.4.x

1. Go to Apple Menu > System Preferences > Network. You will receive a "New Port Detected" message. Click OK.
2. Pull down the Location menu and choose New Location.
3. Name the new location "MacWireless 11n PCI Card".
4. Pull down the Show menu and choose Network Port Configurations.
5. Drag "PCI Ethernet Slot X" to the top of the list.
6. Click in the "on" column to disable all options except "PCI Ethernet Slot X".
7. Click "Apply Now", and close Network Preferences.
8. Go to the dock and click on the Wireless Utility icon. The icon looks like "Ra+".
9. In the Wireless Utility window, click Rescan.
10. In the SSID column, find the network you'd like to join and double click its name.
11. If the wireless network is not encrypted, you will connect automatically. If the wireless network is encrypted, a window will drop down with several fields containing encryption information.
  - a. If you are using WEP encryption, choose "Authentication Type: Shared" and enter your encryption key in the "Key#1" field. When you are finished entering the settings, click OK. Please note that if you are using an AirPort base station, you will need to find the hexadecimal equivalent of your password. To find the hex equivalent, go to Applications > Utilities and open the AirPort Utility or the AirPort Admin Utility. Double click the base station in question, then go to the "base station" menu on the menu bar and choose equivalent network password. Copy down the hexadecimal password shown and enter it into the key #1 field of the Wireless Utility encryption window.
  - b. If you are using WPA-PSK or WPA2-PSK, enter your password in the WPA Pre-Shared Key field and click OK.
12. Configuration is complete. Move on to the post-configuration section below.

## Configuration, cont.

### 10.5.x

1. Go to Apple Menu > System Preferences > Network.
2. Pull down the Location menu and choose Edit Locations.
3. Click on the plus sign to make a new location.
4. Name the new location "MacWireless 11n PCI Card". Click done.
5. Pull down the Location menu again and choose "MacWireless 11n PCI Card" if it's not already selected.
6. In the column on the left, you should see a listing called "PCI Eth...t Slot X" or "PCI Ethernet Slot X" where X is a number. If you see it, move on to the next step. If you do not see it, uninstall and reinstall the driver software. Uninstall instructions can be found below. Install instructions are at the beginning of this document.
7. Click "Apply."
8. Close Network Preferences.
9. Go to the dock and click on the Wireless Utility icon. The icon looks like "Ra+".
10. In the Wireless Utility window, click Rescan.
11. In the SSID column, find the network you'd like to join and double click its name.
12. If the wireless network is not encrypted, you will connect automatically. If the wireless network is encrypted, a window will drop down with several fields containing encryption information.
  - a. If you are using WEP encryption, choose "Authentication Type: Shared" and enter your encryption key in the "Key#1" field. When you are finished entering the settings, click OK. Please note that if you are using an AirPort base station, you will need to find the hexadecimal equivalent of your password. To find the hex equivalent, go to Applications > Utilities and open the AirPort Utility or the AirPort Admin Utility. Double click the base station in question, then go to the "base station" menu on the menu bar and choose equivalent network password. Copy down the hexadecimal password shown and enter it into the key #1 field of the Wireless Utility encryption window.
  - b. If you are using WPA-PSK or WPA2-PSK, enter your password in the WPA Pre-Shared Key field and click OK.
13. Configuration is complete. Move on to the post-configuration section below.

## Post-Configuration

*In this section we will create a profile for your wireless network. Profiles enable you to automatically reconnect to your preferred network each time you restart the computer.*

1. In the Wireless Utility window, click on the leftmost tab, "Profile."
2. Click the add button in the bottom area of the Wireless Utility window.
3. In the field labeled "Profile Name," type a name for your profile.
4. Pull down the SSID menu and choose the name of the wireless network that you would like to join by default.
5. If the wireless network is not encrypted, you are finished - click OK. If your network is encrypted, move on to the next step.
6. Click the "Authentication & Security" tab. Here we will enter the appropriate security information for your network. There are two types of wireless encryption - WEP and WPA. If you are using WEP, see section "a" below. If you are using WPA, see section "b". If you are unsure about what type of encryption your network is using, go to the "site survey" tab and look in the encryption column.
  - a. If you are using WEP encryption, choose "Authentication Type: Shared" and enter your encryption key in the "Key#1" field. When you are finished entering the settings, click OK. Please note that if you are using an 11g AirPort base station, you will need to find the hexadecimal equivalent of your password. To find the hex equivalent, go to Applications > Utilities and open the AirPort Utility or the AirPort Admin Utility. Double click the base station in question, then go to the "base station" menu on the menu bar and choose equivalent network password. Copy down the hexadecimal password shown and enter it into the key #1 field of the Wireless Utility encryption window.
  - b. If you are using WPA-PSK or WPA2-PSK, enter your password in the WPA Pre-Shared Key field and click OK.
7. Congratulations, 11n PCI Card setup is complete!

## Troubleshooting Guide

*We have compiled a list of common issues and solutions. If you experience problems during the installation, please take a look through this section and find your issue. The issues are underlined. Listed below each issue are the appropriate steps to solve your problem. Try the steps in order until the problem is solved.*

### "PCI Ethernet Slot X" does not appear as an option in the Network Preferences window.

#### **Update your system software.**

Connect your computer to the Internet using an Ethernet cable. Go to Apple menu > Location and choose Automatic. Go to the Apple menu again and choose Software Update. Install all updates. You will be prompted to restart.

#### **Uninstall and reinstall the wireless driver.**

Follow the uninstall procedure in the uninstallation section below, then start again from step one of the installation section above.

## Troubleshooting Guide, cont.

### No wireless networks are detected in the SSID column.

#### **Move closer to the source.**

You may be out of range. Try moving your computer closer to the source of the wireless network.

#### **Verify that your network is visible.**

Check on another wireless computer to see if the network appears. If it does not, the problem is with your wireless router – contact the manufacturer of your router for assistance. If the network does appear, move on to the next step.

#### **Update your system software.**

Connect your computer to the Internet using an Ethernet cable. Go to Apple menu > Location and choose Automatic. Go to the Apple menu again and choose Software Update. Install all updates. You will be prompted to restart.

#### **Uninstall and reinstall the wireless driver.**

Follow the uninstall procedure in the uninstallation section below, then start again from step one of the installation section above.

### The wireless network I would like to join is not listed in the SSID column of the wireless utility.

#### **Move closer to the source.**

You may be out of range. Try moving your computer closer to the source of the wireless network.

#### **Verify that your network is visible.**

Check on another wireless computer to see if the network appears. If it does not, the problem is with your wireless router – contact the manufacturer of your router for assistance. If the network does appear, move on to the next step.

#### **Update your system software.**

Connect your computer to the Internet using an Ethernet cable. Go to Apple menu > Location and choose Automatic. Go to the Apple menu again and choose Software Update. Install all updates. You will be prompted to restart.

#### **Uninstall and reinstall the wireless driver.**

Follow the uninstall procedure in the uninstallation section below, then start again from step one of the installation section above.

### My wireless network appears as an option, but I cannot connect to it.

#### **Verify the encryption.**

If your wireless network requires a password, then it is encrypted. Temporarily disable the encryption, then attempt to connect again. If you are unsure about how to disable encryption, contact the manufacturer of your wireless router for assistance. Once you have disabled it, if you can connect successfully, then we know it is an encryption problem. Reconfigure the encryption, verify your password, and try to connect again. If you are still having trouble, move on to the next step.

#### **Change the encryption type.**

If you are using WEP, try WPA, or vice versa. For most situations, we recommend using WPA2 Personal or WPA2-PSK. When using an 11g Airport Extreme Base Station or 11g AirPort Express, we recommend using WPA Personal with TKIP. If you are using an Apple base station and don't see WPA as an option, hold down the option button on the keyboard while clicking the Wireless Security menu in the AirPort Utility.

#### **Uninstall and reinstall the wireless driver.**

Follow the uninstall procedure in the uninstallation section below, then start again from step one of the installation section above.

### I can connect to my wireless network, but I cannot access the Internet.

#### **Verify your network settings.**

Go to Apple menu > System Preferences > Network. In OS 10.3.x or 10.4.x, go to Show > PCI Ethernet Slot X. In 10.5.x, click on PCI Ethernet Slot X in the column on the left. Make sure you are set to Configure: Using DHCP. Also, take a look at the IP address field. If no IP address is shown, or the address starts with 169, move on to the next troubleshooting step. If the IP address does not start with 169, try the Internet again. If you still cannot connect, there is likely a problem with your router. Contact the manufacturer of your router for further assistance.

## Troubleshooting Guide, cont.

### **Move closer to the source.**

You may be almost out of range. Try moving your computer closer to the source of the wireless network.

### **Verify the encryption.**

If your wireless network requires a password, then it is encrypted. Temporarily disable the encryption, then attempt to connect again. If you are unsure about how to disable your encryption, contact the manufacturer of your wireless router for assistance. Once you have disabled it, if you can connect successfully, then we know it is an encryption problem. Reconfigure the encryption, verify your password, and try to connect again. If you are still having trouble, move on to the next step.

### **Change the encryption type.**

If you are using WEP, try WPA, or vice versa. For most situations, we recommend using WPA2 Personal or WPA2-PSK. When using an 11g Airport Extreme Base Station or 11g AirPort Express, we recommend using WPA Personal with TKIP. If you are using an Apple base station and don't see WPA as an option, hold down the option button on the keyboard while clicking the Wireless Security menu in the AirPort Utility.

## **Software Uninstall**

*If you would like to remove the 11n PCI Card software installed on your computer, follow the directions below.*

1. Quit the Wireless Utility if it is running.
2. Insert the MacWireless Drivers and Utilities CD into your computer.
3. Open Finder and navigate to MacWireless CD > Wireless Cards > 11n PCI Card.
4. Double click the file "MacWireless\_Uninstaller".
5. A terminal window will open and you will be prompted for a password. Enter your administrator password and hit return. Please note that as a security measure, your administrator password will not be displayed in the terminal window.
6. You will receive a message that items are being removed. When you receive a message saying "[Process completed]", you may close the terminal window.
7. Uninstallation is complete.

*Disclaimer: Although this product has been tested and verified, MacWireless does not accept responsibility for loss or damage to any equipment or device. Use at your own risk.*