

April 2010

AIRPORT EXTREME N

DUAL-BAND BASE STATION NETWORK



First: Before plugging Airport Extreme to power.

1. **Connect Ethernet cable from DSL Modem to Ethernet WAN port**
2. **USB Printer Cable**
3. **Ethernet Cable from Computers that will connect via Ethernet to LAN port**

Connect via LAN: Use an Ethernet cable to connect the computer to one of the three LAN Ethernet ports on the Extreme N or Time Capsule, or the single Ethernet port on the Express N. Plug your base station into an electrical outlet. Once connected, the base station should appear at the left of AirPort Utility.

I recommend not connecting your base station via the WAN (Wide Area Network) port to a broadband modem or the rest of your network until you've carried out more of the setup, especially the very next part.

Install new software

The Extreme N comes with a CD full of software: AirPort Utility, AirPort Disk Utility, and the 802.11n enabler for appropriately equipped Macs. The software isn't—at this writing—available for download from Apple's Web site. AirPort Utility replaces the hoary AirPort Admin Utility, which dates back to 1999; the new AirPort Utility combines a set of assistants with advanced configuration options.

While installing, on the Installation Type screen, you can click the Customise button to install individual utilities or components. The full installation includes:

- AirPort Utility, which you need to configure your Extreme N base station.
- AirPort Disk Utility (called AirPort Disk on the Custom Install screen), which lets you mount hard disks and partitions that are connected via USB to an Extreme N.
- AirPort Base Station Agent, a monitoring program that can alert you when there's a problem with an Extreme N on the local network.
- The 802.11n enabler, (it's called AirPort Extreme Drivers on the Custom Install Screen), which turns on the N support in Macs that have the correct chips. It's installed only on computers that need it. All newly purchased Macs that were described as including 802.11n are already enabled for that flavour of Wi-Fi; if you bought a Mac before August 2007.

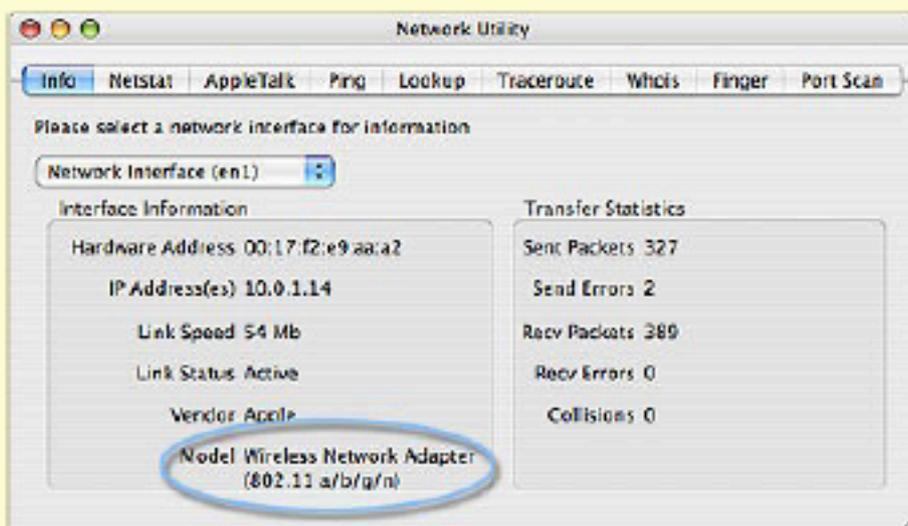
Do You need the 802.11n Enabler?

DO YOU NEED THE 802.11N ENABLER?

You can check if you need to install the enabler on your Mac by launching Network Utility from `/Applications/Utilities` and choosing the appropriate interface from the pop-up menu at the top of the Info pane, usually “Network Interface (en1)”. If the computer doesn’t require the update, “(802.11a/b/g/n)” appears under Wireless Network Adapter at the bottom (**Figure 3**).

If only “(802.11a/b/g)” is shown, run the enabler and restart, and then check Network Utility again.

FIGURE 3



Network Utility shows that the 802.11n enabler isn't needed.

The last step of the installation is to restart the computer.

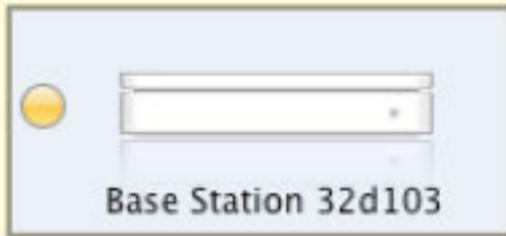
Run the installer on every computer on your network that has an 802.11n adapter that needs to be upgraded, from which you want to mount hard disks connected to the base station, or with which you want to configure the base station.

Launch AirPort Utility and let's get this AirPort on the air!

Check for any Updates:

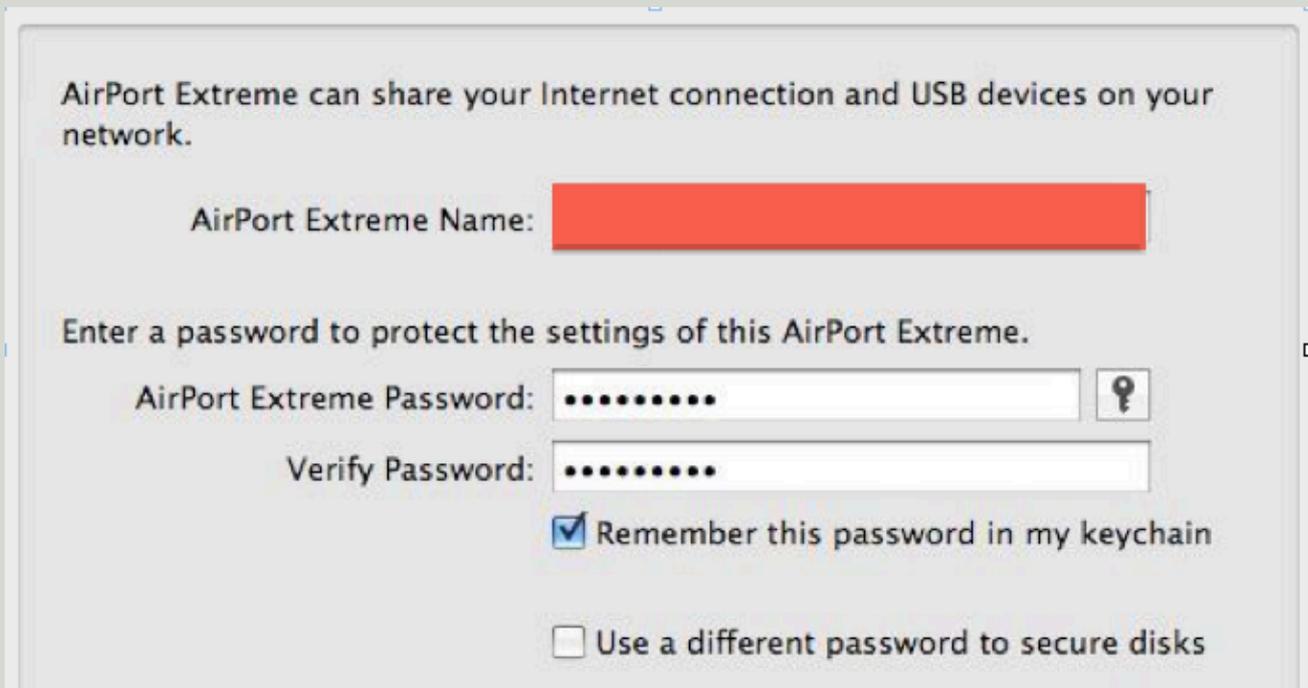
Follow these steps to start configuring your base station:

1. In AirPort Utility, select the base station from the list of base stations at the left and then click Continue.



An unconfigured base station appears in AirPort Utility's base station list named uniquely with the last six digits of its AirPort ID (see the note, "Default Network Names," below). (Dig the subtle reflection!)

2. The first screen, labeled with your base station's name, prompts you to name the base station and then choose a password to protect the base station's configuration.

A screenshot of the AirPort Extreme configuration window. The window title is 'AirPort Extreme'. The main text says 'AirPort Extreme can share your Internet connection and USB devices on your network.' Below this, there is a label 'AirPort Extreme Name:' followed by a red rectangular input field. Underneath, it says 'Enter a password to protect the settings of this AirPort Extreme.' There are two password input fields: 'AirPort Extreme Password:' and 'Verify Password:'. Both fields contain a series of dots. To the right of the first password field is a key icon. Below the password fields, there are two checkboxes: the first is checked and labeled 'Remember this password in my keychain', and the second is unchecked and labeled 'Use a different password to secure disks'.

Enter a base station name and password, choose whether to store the password, and set a unique disk access password.

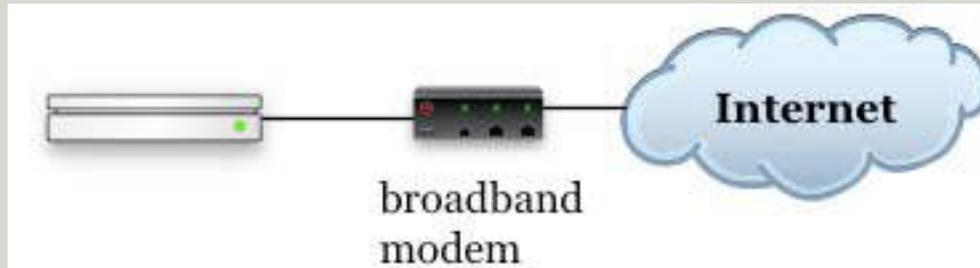
This password is unrelated to network data encryption and protection, but it's vital to set the password to prevent unwanted access by others to the base station. The default base station passwords for all Wi-Fi routers are well known. Use a password that is simple, but hard to guess.

Check "Remember This Password in My Keychain" option so that the Mac will store the password.

3. Click Continue.

Now we move into Network Planning, & configure settings that are needed to Set Up A Network:

New Network, Single Base Station:



1. In AirPort Utility, on the first Network Setup screen, select the middle option, “I don’t have a wireless network…” or “I want to create a new wireless network” (the text may vary depending on your current set of networks) and click Continue to reach the next Network Setup screen

The screenshot shows the "Provide a name and security level for the wireless network" screen in AirPort Utility. It features a red input field for the "Wireless Network Name". Below this, the "WPA/WPA2 Personal" security option is selected with a radio button. A descriptive text explains that this provides the maximum level of security and requires a password of 8-63 characters or 64 hexadecimal characters. There are two password input fields: "Wireless Password" and "Verify Password", both containing masked characters. A checkbox labeled "Remember this password in my keychain" is checked. At the bottom, the "No security" option is unselected, with a note that any device can join without a password.

Set your Network's Name, and then enable security to prevent unwanted users.

2. Enter a network name and select a security method:

Network name: The network name will be “advertised” to Wi-Fi adapters that scan for networks to connect to; for instance, on a Macintosh the network name will appear in the AirPort status menu in the menu bar.

Multiple base stations may share the same network name to create a network with a larger area or more available bandwidth.

Security method:

WPA/WPA2 security allows Macs running Mac OS X 10.3 Panther or later and computers with Windows XP SP2 or later to connect.

Click Continue:

Select whether you would like your AirPort Extreme to be in bridge mode or share an IP address using DHCP and NAT.

select Bridge Mode

Bridge Mode

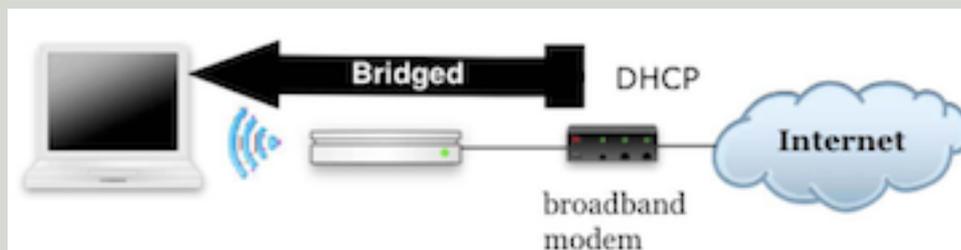
Select this option if your AirPort Extreme is connected to a router or other network device that is already using DHCP and NAT to provide IP addresses to computers on your network.

Share a single IP address using DHCP and NAT

Select this option if your AirPort Extreme is connected directly to the Internet with a DSL or cable modem, or to a network with an Internet connection, and you want to use DHCP and NAT to provide IP addresses to computers on your network.

3. Select Bridge Mode.

With Bridge Mode, a device upstream of the base station—such as a broadband modem with a DHCP server built in—passes through an address to computers connected to the base station.



Click Continue:

4. Uncheck the Enable Guest Network box to bypass such a network.

Click Continue.

5. The first Internet Setup screen lets you choose how addresses are assigned on your network.

AirPort Extreme is currently connected to the Internet using a DSL or cable modem, or over Ethernet with an IP address assigned automatically using DHCP. Confirm this or enter any optional information you received from your Internet service provider or network administrator.

I connect to the Internet with a DSL or cable modem using DHCP
 I do not use DHCP

IP Address: 10.1.10.118
Subnet Mask: 255.255.255.0
Router Address: 10.1.10.1
DNS Server(s):
Domain Name:
DHCP Client ID:

Click Continue.

Enter the TCP/IP information you received from your Internet service provider. Choose Using DHCP if you receive an IP address automatically. Choose Manually to enter a specific IP address.

Configure IPv4:

IP Address: 10.1.10.118
Subnet Mask: 255.255.255.0
Router Address: 10.1.10.1
DNS Server(s):
Domain Name:
DHCP Client ID:

6. Choose Using DHCP from the Configure IPv4 pop-up menu.

Click Continue.

7. Review your choices in the Summary screen. You can click Go Back repeatedly to make changes, or click Update to store your settings and restart the base station with them.

AirPort Extreme will use the settings below. Make sure they are correct.

AirPort Extreme Name	[REDACTED]
Base Station Password	••••••
<hr/>	
Wireless Mode	Create a wireless network
Wireless Network Name	[REDACTED]
Wireless Security	WPA/WPA2 Personal
Wireless Password	••••••
<hr/>	
Enable guest network	Enabled
Guest Network Name	[REDACTED]
Guest Network Security	WPA/WPA2 Personal
Guest Network Password	••••••
<hr/>	
Connect Using	Ethernet
Configure IPv4	Using DHCP
IP Address	10.1.10.118

If these settings are correct, click Update to finish setting up this AirPort Extreme. Click Go Back to change settings.

Go Back Update

Local Area Network (LAN): A LAN comprises computers connected via Ethernet and / or Wi-Fi into a small or large group.

A LAN's computers are in close physical proximity, usually in an area as small as a home office or as large as an entire office building.

A LAN is typically thought of as a single network, especially when considering local network resources like file servers.

Wide Area Network (WAN): A router, like the AirPort Extreme Base Station, connects its own LAN to a wider network that's known as a WAN.

A WAN, from the perspective of a base station, is often simply the Internet; or it might be a network connecting several offices run by the same company in different cities.



SINGLE NETWORK SETUP (TIME CAPSULE AND AIRPORT EXTREME)



Simultaneous dual-band 802.11n Wi-Fi base station.

Some Wi-Fi devices use the 2.4GHz wireless band, including iPhone, iPod touch, and devices using 802.11b/g.

Other devices can use either 2.4GHz or the higher-speed 5GHz band, such as the latest 802.11n-based Mac computers and Apple TV.

Instead of choosing one of the bands, AirPort Extreme and Time Capsule now operates simultaneously on both bands, and your multi-band devices automatically use the best available band.

This means all your Wi-Fi devices get the fastest possible wireless performance and the best possible range.

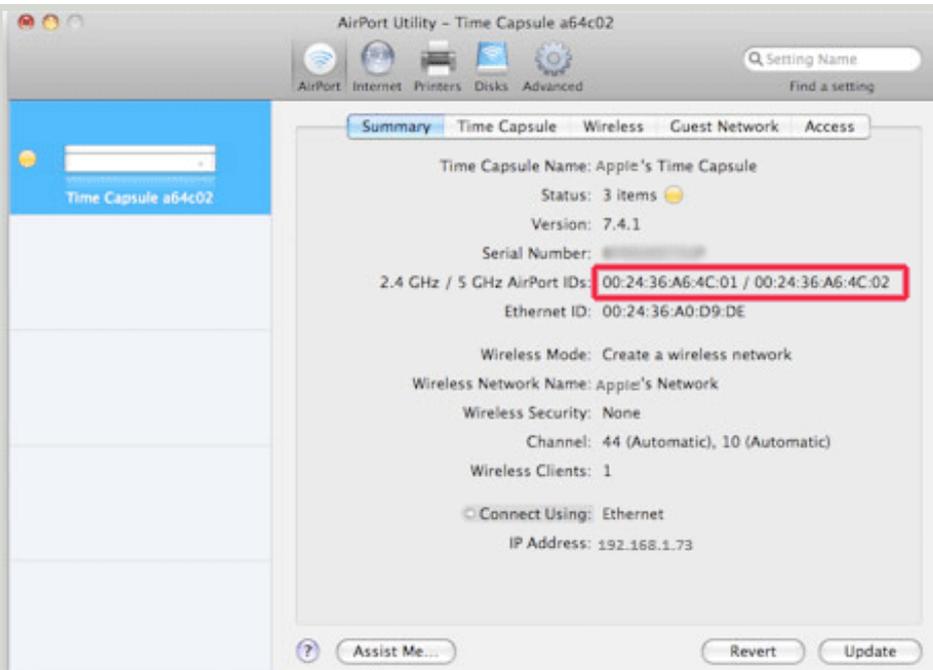
If you use the factory default radio mode option, known as 'Automatic', both bands will have networks that use the same network name which is also known as SSID, the name that appears in the AirPort menu.

This, single, combined network configuration is the way that the previous AirPort Extreme and Time Capsule models worked, since they had only one radio.

However, the downside to using this single, combined network configuration is that wireless speed and range will be reduced somewhat for all wireless clients if an 802.11a/b/g product joins the network, just as was the case with previous AirPort Extreme and Time Capsule models.

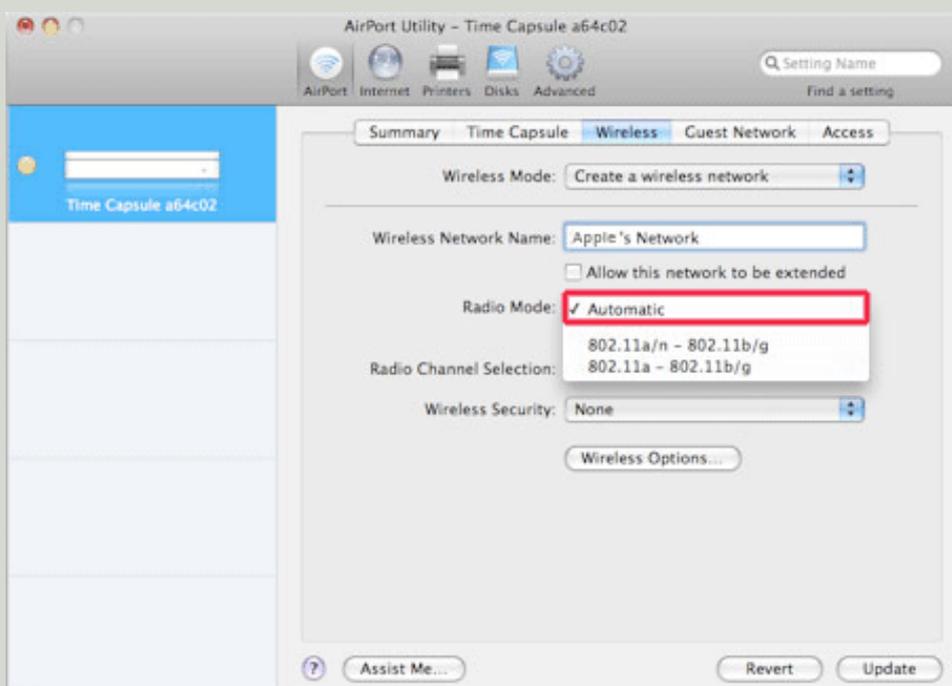
Steps 1. Go to Applications > Utilities > Airport Utility.

Step. 2. You can use "Manual Setup or Assisted". I use manual for this tutorial.



On the summary tab, take a look at the Red highlighted area, and you will find individual AirPort IDs for each of the two wireless network interfaces

Step 3. Go to wireless tab > Radio Mode > Automatic.



Choosing automatic will setup your Airport extreme and Time Capsule to a single wireless network that uses the 2.4 GHz and 5 GHz bands simultaneously

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