Setting Up a Home Wireless Network

You Will Need

• your wireless card and laptop
• an existing internet connection in your home (such as modem, cable or DSL service)
• a wireless access point to transmit the signals from the internet connection to your computer. In most cases a single access point will cover your entire house.
• experience setting up computer hardware
• some knowledge of Ethernet networking.

There are three factors to ensure success:

1. Proper product selection
2. Installation location and home networking setup
3. Configuration of wireless card for multiple locations, such as at home and at the Business School.

Following are details.

What to Buy?

There are many inexpensive home wireless access points. PC Magazine rated many of these home wireless systems in their February 2001 issue.

Types of Products

The simplest type is a wireless access point that plugs into the jack for a cable-modem, DSL-modem or Ethernet connection. It allows computer(s) with a wireless card within its range to connect to the internet through it wirelessly.

For regular phone line modem access, you can buy one specifically that has a built in modem that plugs into a phone line, such as the Lucent RG-1000.

Another type of product combines a wireless access point with a built in Cable\DSL Broadband Router for a more sophisticated home network. PC Magazine has an article about home networking in their December 2000 issue.
Where to Put Your Home Access Point

Locate the access point centrally to cover the most important areas. The coverage area is usually between 50 and 100 feet indoors and further outdoors, but this will vary between access points and the construction materials of your house. Some of the more expensive products have optional antennas that will increase the coverage areas.

For very large houses an option is to install a second access point in another part of the house. A second access point typically requires purchasing an access point that supports roaming and connecting it to your home network with an Ethernet cable. Some of the very expensive systems allow you to connect the second access point wirelessly.

To avoid interference do not locate access points near microwave ovens and do not use 2.4Ghz phones or other devices. Use of regular 900Mhz cordless phones is fine.

Configuration

The configuration of your laptop wireless card will likely need to be set differently for use at home and for use at the Business School. Wireless Cards such as the recommended Lucent Orinoco Gold card and the Dell/Cisco/Xircom allow configuration for multiple locations.

The two main configuration items that vary between location are:

- **Network Name (Also called SSID on some systems):** The Network Name at the Business School is UM-CENTRAL. The Network Name on your home system will either be fixed by the manufacturer or allow you to set your own name.
- **Encryption Settings:** The Business School wireless network supports 128-bit encryption that can be optionally set on the laptop, but is highly recommended. Most home networks only support 40 or 64 bit encryption so that if you use encryption at home, this will need to be configured differently.

Following Are Examples for Our Two Recommended Cards

**Lucent Orinoco PC-Card**

The Lucent Orinoco card allows you to configure multiple location profiles. From the Control Panel choose “Wireless Network.” Set up a second profile to access your home wireless network.

Editing this profile brings up the following dialog box. Use this dialog box to switch between the two profiles, or right click on the Client Manager icon in
the system tray to select the desired profile you wish to use each time you change locations.

Dell/Cisco/Xircom PC-Card

The Dell, Cisco, and Xircom cards are all manufactured by Cisco and are essentially the same. They all use same profile and diagnostic utility available from the Start Menu.

Following is an example of the properties dialog box where the Network Name is set. You can list up to 3 different Network Names and the system will try to connect to each. This does not need to be changed when you switch locations like the Lucent card above. The Encryption Settings are available on the RF Network tab.