

AIS and WIRELESS NETWORKING

AIS will function on a wireless network. The wireless network can be placed in a warehouse or used with tailgate computers. The best environment for a wireless network is where there is open space between the wireless computers such as at a tailgate site. Many warehouse configurations place computers between building structures that may interfere with the ability of the wireless network to communicate properly. It is important that the wireless concept be understood prior to designing the network and purchasing wireless network components.

To form a wireless network, two basic components are used. The first is a wireless adapter for a computer. This can be either a USB wireless adapter or a PCMCIA adapter. The adapter gives the PC wireless Ethernet capabilities. The second is a **Wireless Access Point**. A WAP can connect to a wired LAN and allow the wireless PCs to be able to access the wired LAN. Wireless networking is not very different from wired networking. There are only a few basic concepts one must grasp. There are two different ways to network computers using 802.11b. One method is the Ad-Hoc method, also known as Peer-to-Peer. The more commonly used method is called Infrastructure.

Equipment needed:

- Wireless network card for each computer.
- Wireless Access Point (WAP) in the main warehouse

AD Hoc Wireless Mode

This mode is recommended for use only at a TAILGATE site between 2 or more laptops. If the Ad-Hoc wireless configuration is used, it is strongly recommended that all wireless adapters be the same brand. If the laptops both have different brands of wireless cards make sure that your vendor can properly configure them to use the Ad-Hoc method. If unlike brands are used it is recommended that the Infrastructure method be utilized.

Ad-Hoc, or Peer-to-Peer, refers to a configuration where each computer in the wireless network communicates directly with another. No WAP is used in this configuration. An Ad-Hoc wireless LAN consists of two or more computers, each equipped with a wireless adapter, connected directly via radio signals to form an independent wireless LAN as in Diagram A. Computers in a specific Ad-Hoc wireless LAN must be configured to the same radio channel to communicate with one another.



Diagram A – using wireless network cards only

Infrastructure Mode

The use of a WAP to connect a wireless LAN to a wired LAN is called Infrastructure. A WAP serves as a bridge between the wired and wireless network. Connecting the WAP to any port on the wired network will give wireless access to all wireless-equipped computers within its coverage area as in Diagram B. The WAP can also be used without connecting to the wired network as in Diagram C. This is because the WAP serves as a central point for routing of all the wireless network traffic between the wireless computers. Wireless-equipped computers networked together in Infrastructure mode form a group called a Basic Service Set (BSS).

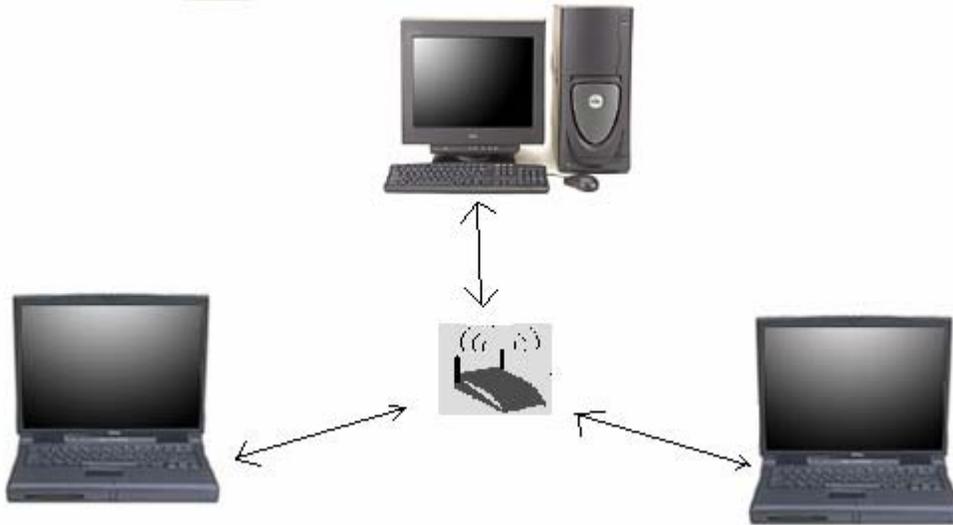


Diagram B – using a WAP wireless only

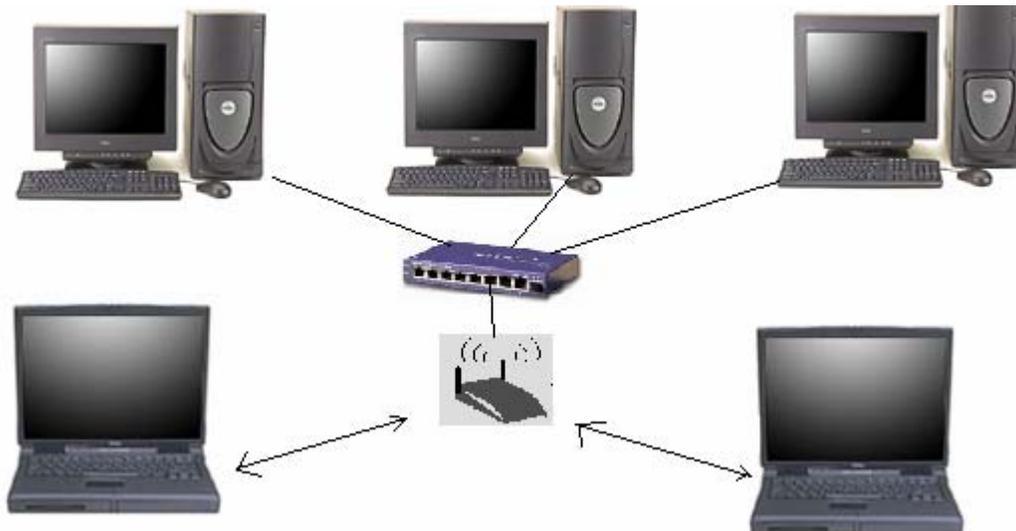


Diagram C – using a WAP connecting to a wired network