ORTEC®

Wireless Connectivity Option for *CONNECTIONS*

- ORTEC *CONNECTIONS* Spectroscopy system networks without wires
- Freedom of mobile computing with Ethernet performance
- No risk of contaminated cables
- Industry-standard components for reliable inside and outdoor networking
- Operates up to 500 ft. outdoors and 160 ft. indoors

Wireless networking is now available with ORTEC *CONNECTIONS* software products. The user now has complete freedom to work anywhere in the laboratory or in the field without cumbersome cables — cables which are easily tripped over, can become damaged, or contaminated, requiring cleaning or disposal. Computers can now be kept safe from rain and dust while still performing the needed outdoor measurements. Inside buildings, *in-situ* spectroscopy systems can be deployed easily and controlled remotely even when positioned in difficult to reach or "hot"areas.

From the beginning, ORTEC *CONNECTIONS* has employed standard networking technology as the basic platform. We have added the features necessary to support spectroscopy systems. These features are open and easily implemented in user-written programs. Wireless networking is available as a simple extension to existing networks; achieved simply as suitable technology emerges. *CONNECTIONS* wireless networking uses the best off-the-shelf, high-security components to ensure you the most robust and reliable operation. Wireless networking can be mixed with wired networks to control any number of ORTEC MCBs.

Wireless Connectivity Option for *CONNECTIONS*

Typical ranges are hundreds of meters outdoors with shorter ranges indoors depending on the building type. This range can be increased by using add-on antennas.

An example of the simplest set-up to implement the *CONNECTIONS* Wireless Network is shown below.

In the figure, one PC close to the digiDART MCA acts as a wireless server which communicates over the wireless network to the host PC held some distance away. The network is actually a peer to peer network. This is Option 1 in the ordering information.

Wireless Connectivity Option for *CONNECTIONS*

The use of Lucent Technologies "ORiNOCO" Wireless LAN products provides for reliable systems. This wide range of products and options gives you the freedom to create any type of wireless system to suit your needs. In the simplest configuration, shown in the figure, the complete network includes two PCs, each with a wireless LAN adaptor card. In this case the following was used:

The ORiNOCO Turbo 11 Mbps Wireless PC Card Gold. The card transmits at a frequency of 2.4 GHz, follows the IEEE 802.11b standard for Wireless Networking, and fits into a PCMCIA type II PC slot. The card has encryption for increased security.

Transmission Protocol	IEEE 802.11b
Frequency	2.4 GHz
Outdoor Range	525 ft.
Indoor Range	165 ft.

To connect multiple wireless stations to a network or make a network "bridge" to a conventional "wired" network, you only need the ORiNOCO AP-1000 Access Point. This high-performance wireless bridge provides 10/100 Mb Ethernet support, enabling easy network access for mobile users and those in difficult-to-wire locations.

The bridge's unique architecture features dual PC card slots, allowing flexiblity in the use of different plug-in cards with different radio frequencies. Using two Network Interface Cards allows operation on two different frequency channels, doubling network capacity. The AP-1000 Access Point's architecture also supports wireless-to-wireless bridging which is ideal for the creation of wireless backbones in large, open areas such as warehouses and process buildings. This feature allows you to build an extension to your wireless network without expanding the wired backbone.

The AP-1000 Access Point includes Windows-based, SNMP compliant ORiNOCO AP Manager Software which enables easy bridge configuration and can be used for cost-efficient central management, control, and remote monitoring of your entire network. The AP-1000 provides four levels of integrated security including RC4 encryption, an Access Control Table and ORiNOCO's Direct Sequence Spread Spectrum Technology to protect your system against unauthorized access while limiting it's management to authorized stations. This is Option 2 in the ordering information. A minimum of one PC card in the Access Point is required for operation.

Wireless Connectivity Option for *CONNECTIONS*

Ordering Information

Model	Description
WL-1	Basic peer-to-peer network, installed on two laptops. Includes two Lucent ORiNOKO PCMCIA adapters, software, and instructions in implementing the *CONNECTIONS* wireless network. (Laptop not included)
WL-2	Wireless extension to wired network. Complete system above (WL-1) plus Access Point with card.

NOTE: While correct at the time of printing, networking technology is improving rapidly, so more powerful solutions are constantly arriving. Contact ORTEC for the latest *CONNECTIONS* implementations.

Prerequisites

The prerequisites for *CONNECTIONS* wireless networking will depend on the requirements of the networking product used. As a general guide, Windows 98/2000/NT, and a PCMCIA slot on the two computers are required to communicate. Consult your ORTEC representative for more detailed information.

Disclaimer

The performance of wireless networks at the limits of the claimed range in free air, or within buildings of unspecified construction cannot be guaranteed. Please contact ORTEC for a demonstration of the wireless network at your intended site to ensure the system will work before you purchase.

Specifications subject to change
062309

ORTEC®
www.ortec-online.com
Tel. (865) 482-4411 • Fax (865) 483-0396 • ortec.info@ametek.com
801 South Illinois Ave., Oak Ridge, TN 37831-0895 U.S.A.
For International Office Locations, Visit Our Website

AMETEK®
ADVANCED MEASUREMENT TECHNOLOGY