

| | |
|--------------------|-----|
| Using TCP/IP | 200 |
| Using IPX/SPX..... | 204 |

Using TCP/IP

The TCP/IP protocol uses Internet Protocol (IP) addresses assigned to each computer to maintain connections between clients and servers. To set up and use the TCP/IP protocol, you need to know if you have a static or dynamic address.

| Address type | Description |
|---------------------|---|
| Static | (Preassigned unchanging) A static IP address stays the same all the time. You must enter each computer's specific IP address in the appropriate setup window. |
| Dynamic | (Assigned when you connect) A Dynamic Host Configuration Protocol (DHCP) |

You can assign IP addresses to computers manually or by using a DHCP server. A DHCP server assigns IP addresses to clients when the clients access the server. If you use DHCP, you need to know only the server's IP address, not any of the clients' IP addresses.

When you use TCP/IP, each of your computers also has a machine name (also called a host name). This name is a convenient way of referring to the computer's location. You can choose the name you want to use and match it to the computer's IP address in the Hosts file or you can use WINS or DNS to resolve IP addresses and machine names.

Methods for resolving computer names

There are several methods of resolving names. For more information, see the *Computer Address Resolutions* appendix.

| Method | Description |
|------------|---|
| Hosts file | A text file you set up that contains IP addresses and machine names for the computers on your network. If your computers use static IP addresses, you can use a Hosts file. If you use WINS, you do <i>not</i> need a Hosts file. |
| DNS | Domain Name Server. DNS manages the IP addresses and machine names for the server, so no Hosts file is needed. |
| WINS | Windows Internet Naming Service. WINS manages the IP addresses and machine names for the server, so no Hosts file is needed. |

Viewing IP addresses after TCP/IP is installed

In Windows 95/98 and NT/2000, you can see the server's IP address by going into Network Properties on the server computer. If you have TCP/IP installed on the computer, the TCP/IP Properties window lists the IP address.

To view your IP address (Windows 95/98)

- 1 On your server computer, place your mouse pointer over the desktop's **Network Neighborhood** icon and click the *right* mouse button.
- 2 In the pop-up menu that appears, select **Properties**.
The Network window opens with the **Configuration** tab displayed.
- 3 In the box labeled "The following network components are installed," select your TCP/IP component and then click **Properties**. The TCP/IP Properties window opens.
- 4 Click the **IP Address** tab, if necessary, and find the IP address. Write this number down so you can refer to it when you're setting up the Spectrum Communications Setup program.

5 To close the window(s), click **OK** or **Cancel**.

To view your IP address (Windows NT)

- 1 On your server computer, place your mouse pointer over the desktop's **Network Neighborhood** icon and click the *right* mouse button.
- 2 In the pop-up menu that appears, select **Properties**.
The Network window opens.
- 3 Click the **Protocols** tab, if necessary, and select **TCP/IP Protocol**. Then click the **Properties** button.
- 4 Click the **IP Address** tab, if necessary, and find the IP address. Write this number down so you can refer to it when you're setting up the Spectrum Communications Setup program.
- 5 To close the window(s), click **OK** or **Cancel**.

To view your IP address (Windows 2000)

- 1 On your server computer, place your mouse pointer over the desktop's **My Network Places** icon and click the *right* mouse button.
- 2 In the pop-up menu that appears, select **Properties**. The Network and Dial-up Connections window opens.
- 3 Right-click **Local Area Connection**.
- 4 In the pop-up menu that appears, select **Properties**. The Local Area Connection Properties window opens.
- 5 In the **Components checked are used by this connection** group, locate and select **Internet Protocol (TCP/IP)**. Then click the **Properties** button. The Internet Protocol (TCP/IP) Properties window opens and displays the IP address. Write this number down so you can refer to it when you're setting up the Spectrum Communications Setup program.
- 6 To close the window(s), click **OK** or **Cancel**.

To view your IP address (Macintosh)

- 1 On your server computer, from the **Apple** menu, choose **Control Panels > TCP/IP** (or **TCPHP**). The TCP/IP (or TCPHP) window opens and displays the IP address. Write this number down so you can refer to it when you're setting up the Spectrum Communications Setup program.
- 2 To close the window, click the close box in the upper left corner of the window.

Enabling network communication

The TCP/IP protocol uses IP addresses and machine names (also called host names) to locate the computers on a network, while the IPX/SPX protocol uses the unique identification of each network card (this identification is already set up in the hardware).

If you use TCP/IP, there are several ways to set up your computers to use IP addresses: Hosts file, DHCP, DNS, and WINS. The method you use will differ according to operating system, program constraints, and personal preference.

Using IPX/SPX

IPX/SPX (Internetwork Packet Exchange/Sequential Packet Exchange) is a protocol developed by Novell for transmission of information on NetWare and InternetWare networks.

Novell only

Currently, you can only use IPX/SPX if you're using a Novell network. Setting up your network to use IPX/SPX is a simple process because each device on your network has a unique identifier by default. If you use Novell, read this section carefully.

Novell and IPX/SPX

If your library uses a Novell server, you may use IPX/SPX, or IPX/SPX and TCP/IP (Novell NetWare 4.x and 5.x only). Currently, Sagebrush expects that only Novell users will use Spectrum Server software designed for the IPX/SPX protocol.

To connect to the Spectrum Server for Novell NetWare, you need Spectrum for Windows 95/98 or Windows NT/2000 clients for IPX/SPX. In addition to the Spectrum clients, you also need to install Novell's client software because Microsoft's Novell client software supports only bindery services.

IPX/SPX is supported only in Microsoft Windows. It is not supported on the Macintosh. However, if you have Novell NetWare 4.x or higher, you can run TCP/IP *and* IPX/SPX. By running both protocols you can connect both Microsoft Windows (using IPX/SPX) and Macintosh (using TCP/IP) clients.

Checking your IPX/SPX protocol settings on Windows clients

You should check your settings by choosing the protocol from the list in the Configuration tab in the Network window. For more information on installing IPX/SPX, see your network technician.