

# Getting Started with Networking and the 2572

## Minimum Hardware Requirements

1. A PC running Windows 3.x, 95 or NT with a network adapter card installed and configured.
2. A network hub with proper network cables to attach the PC and the 2572.
3. A CTI 2500 Series or Simatic® 505 I/O chassis with a PLC and power supply installed.
4. A CTI 2572 Ethernet Module.

## Software Requirements

1. Application software that you intend to use to access the 2572 or, for test purposes, the CTI 2572 Diagnostics software. This software can be downloaded from CTI's FTP site.
2. If you are planning to use Wonderware as the MMI software, you will need the CTI 2572 DDE Server software. This is available for Windows 3.x and Windows 95/NT. Contact your CTI distributor or CTI for information on obtaining this software.

## Select IP Address for PC and 2572

Before you proceed, you must select an IP address to be assigned to the PC and the 2572. If this application is to be connected to a wide area network (WAN) such as an office network or plant-wide network, then IP addresses must be obtained from the Network Administrator for your network. If this application is to be connected to a local area network (LAN) then you must choose addresses with the same address class for both the PC and the 2572 but with different Host ID numbers. Refer to the *2572 Ethernet TCP/IP Communication Processor User Manual* (or the **CTI Application Note *IP Addressing and the 2572***) for more details on IP address structure.

## Assigning an IP Address to the PC - (Windows 95)

1. From the Start menu select **Settings**
2. Select **Control Panel**
3. Select **Network**
4. In the **Configuration** window, highlight the appropriate **TCP/IP Network Component** (see Figure 1)
5. Select **Properties**
6. Select **IP Address**
7. Select **Specify IP Address**
8. Enter an **IP Address** and **Subnet Mask** (see Figure 2)
9. Select **OK**
10. Reboot your computer so the new settings can take effect



Control Technology Inc.

5734 Middlebrook Pike, Knoxville, TN 37921-5962

Phone: 865/584-0440 Fax: 865/584-5720 www.controltechnology.com

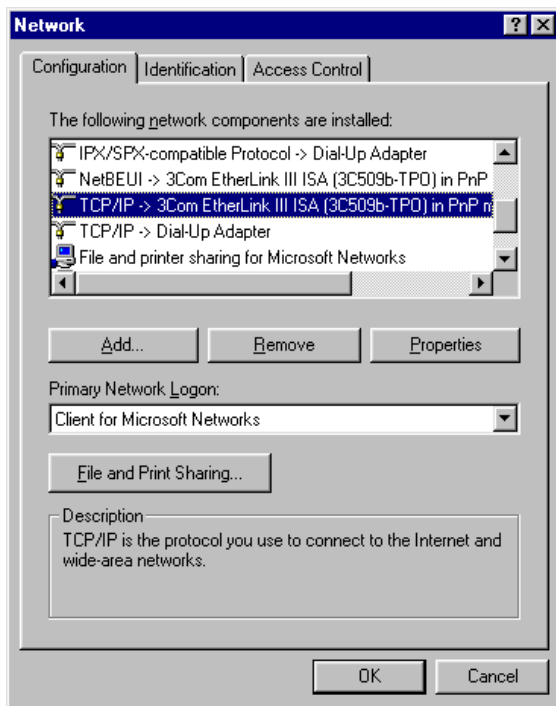


Figure 1

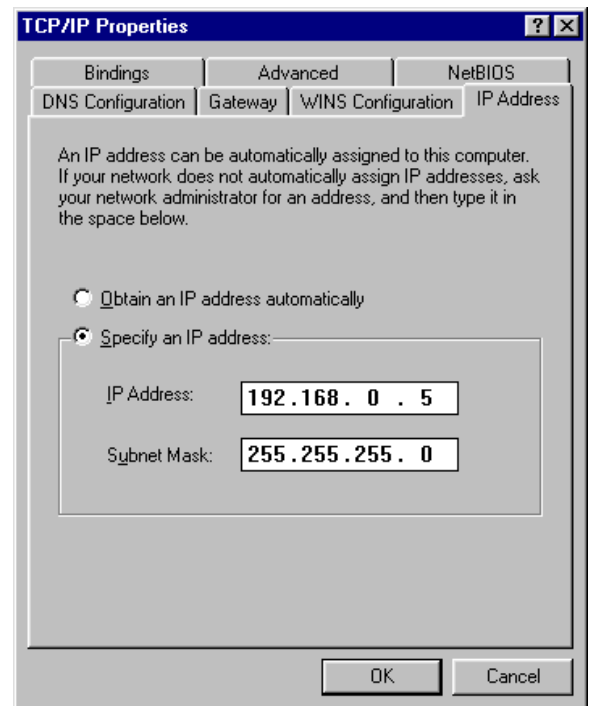


Figure 2

## Assigning an IP Address to the PC - (Windows NT)

1. From the Start menu select **Settings**
2. Select **Control Panel**
3. Select **Network**
4. Highlight the **TCP/IP** protocol for your network card (see Figure 3)
5. Select **Properties**
6. Select **IP Address** tab
7. Select **Specify IP Address**
8. Enter an **IP Address** and **Subnet Mask** (see Figure 4). For a discussion of IP addressing, refer to the CTI Application Note *IP Addressing and the 2572*.
9. Select **OK**
10. Reboot your computer for new settings to take effect

## Logging the 2572 into the PLC I/O Configuration

Before an IP address can be loaded into the 2572, it must be installed into the I/O base and logged into the PLC's I/O configuration. The 2572 module must be logged into the I/O configuration as a 2WX 6WY Special Function Module and must be given a starting I/O address. Refer to PLC System documentation for the procedure for accomplishing this.

## Assigning an IP Address to the 2572 Module

Before the 2572 will operate on a network, an IP address and other network parameters must be loaded into the module. There are two methods for accomplishing this:

1. Network parameters may be loaded into the 2572's EEPROM using the 2572 Configuration Software (IPSET) which is supplied on a diskette with the module or by using the CTI Diagnostic Software which may be obtained from CTI's FTP site. The 2572 can be configured to read its network parameters from EEPROM on power up. This method does not require any ladder logic or PLC V memory configuration. (See CTI Application Note *Using CTIDIAG with the 2572*.)

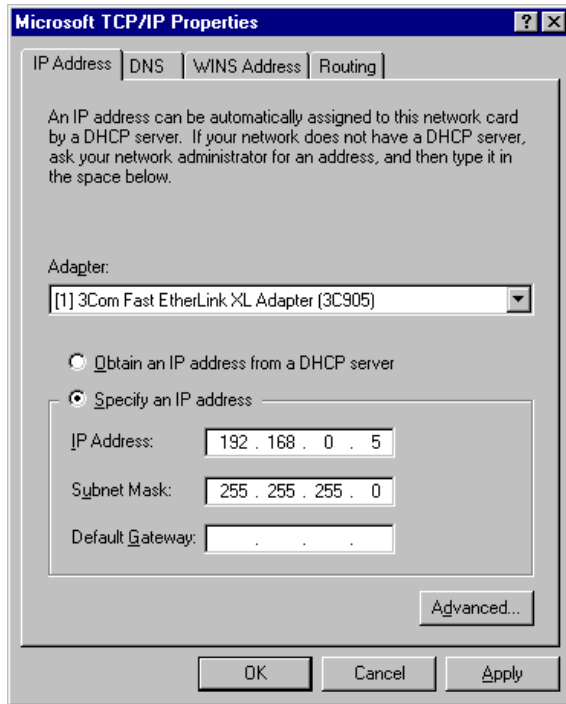


Figure 3

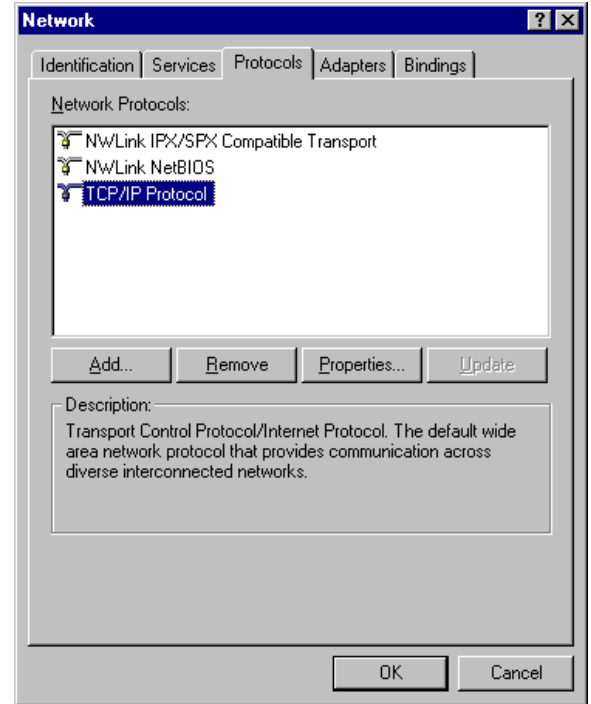


Figure 4

2. If preferred, network parameters may be loaded via PLC ladder logic. This method requires some ladder logic and a block of PLC V memory to be configured with network parameters to be loaded to the module.

Refer to the *2572 Ethernet TCP/IP Communication Processor User Manual* for examples of how to load network parameters from the PLC.

### Loading Network Parameters to the 2572 using IPSET

Connect an RS-232 communication cable from your PC serial port to the RS-232 serial port on the 2572. Place the 2572 Utilities diskette in drive A.

From the DOS prompt `c:\>` type `a:ipset` then ENTER.

Follow the on-screen directions for entering network parameter information and writing to EEPROM.

Example Data:

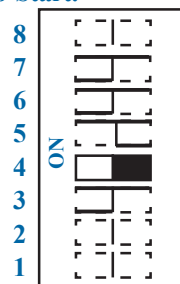
```

TCP Stale Socket Timeout      : 0
2572 IP Address                : 192.168.0.6
2572 Server Port Number       : 1505
Default Router IP Address     : 0.0.0.0
Subnet Mask                    : 255.255.255.0
Write new data? (y/n)_

```

For more detailed information on using IPSET, read the IPSET.txt file located on the 2572 Utilities diskette.

**Note:** If you choose to load network parameters from EEPROM, you must configure the 2572 dip switches for Auto-Start.



SW2

Switch 4

Startup Mode	Position
PLC Start	OFF
Auto Start	ON

## Connecting Network Cables

1. Attach a 10BaseT network cable from the RJ45 connector on the front of the 2572 module to the Hub.
2. Attach a 10BaseT network cable from the Hub to the RJ45 connector on the PC network adapter card.

**Note:** If you do not have a hub, you can connect directly from the PC network adapter card to the 2572 module with a special 10BaseT crossover cable. This is called a “hub to hub” cable.



Figure 5

## Check Network Connection

Once you have loaded the 2572 network parameters and have it connected to the network, there are some simple checks you can do to determine the integrity of the connection.

The simplest method is to try a “ping” from the PC to the 2572 module. From a DOS box on the PC, type “ping”, space, the IP address that you assigned to the 2572 module, and ENTER.

Example: `ping 192.168.0.6`      `c:\>ping 192.168.0.6`

If the network connection is valid, a reply similar to the example below will be returned from the ping.

```
Pinging      192.168.0.6
Reply from  192.168.0.6: bytes = 32 time = 20ms TTL = 60
Reply from  192.168.0.6: bytes = 32 time < 10ms TTL = 60
Reply from  192.168.0.6: bytes = 32 time < 10ms TTL = 60
Reply from  192.168.0.6: bytes = 32 time < 10ms TTL = 60
```

If the ping cannot get to the 2572, a timeout response will be returned.

```
Pinging      192.168.0.6
Request timed out.
Request timed out.
Request timed out.
Request timed out.
```