



# WebView I/O Series WVC16 WebView Communications Interface

## Quick Start Guide

October 2002



## HOW TO CONNECT THE WVC16 TO A NETWORK

### Introduction

The purpose of this document is to provide a brief source of information on how to connect the WVC16 WebView Communications Interface to an Ethernet network. The network could either be a direct connection to the user's PC (handy for making configuration changes in the lab or in the field) or connection to the user's company intranet. Both connections are covered in this guide. For a complete description of the WVC16 please refer to the WVC16 User's Guide located on the C650 Utility CD.

### Installation

A detailed guide for installing the unit is located in the WVC16 User's Guide. Basically, the WVC16 is clipped onto a DIN rail, to the left of a group of up to 32 WebView modules, as shown in the photo below. The RJ-45 Ethernet connector is located on the underside of the unit. The connection for the RS-232 interface to the Administration Console is under the top front connector cover. Simply remove the cover and plug in the serial cable, which is included with the C650 Utility CD. At this stage, do not connect the other end of the Ethernet or serial cable at this time. (If you are going to direct connect to the WVC16 from the PC, a Cat-5 crossover cable is required.)



DC power also needs to be connected to the unit. Apply 9 to 30VDC to the WVC16 either through the power clips (the red and black clips supplied with each module) or hard-wire DC Power (+) to terminal 11 or 21 and DC Power (-) to terminal 12 or 22.

The last item needed to do the installation will be a communications program on your PC. Programs such as HyperTerminal or Procomm are examples of programs that will work fine. HyperTerminal should be included with your Windows installation, located from your Start button under Programs\Accessories\Communications\HyperTerminal.

### Direct Connection with your Computer

If you are using a new WVC16, it came from the factory with a default setting for being a DHCP client. You will need to change this setting in order to connect the unit directly to your computer's Ethernet port. If you have a unit that could have possibly been previously configured, it could be set to an IP address, or it could have been set as a DHCP client for connecting to a network. Either way, you must use the serial port and connect to the WVC16 Administration Console to verify the settings before going any further. Follow the steps listed below:

1. If the WVC16's Ethernet port is connected, disconnect it.
2. Connect the Administration Console port (the RS-232 port) to your computer's serial port using the serial cable provided with the C650 accessory kit.

3. Power up the WVC16 and wait 5 seconds for the boot process to complete.
4. On the computer, start HyperTerminal (or whatever communications program you want to use).
5. Configure the communications program for 9600 baud, 8 data bits, 1 stop bit, no parity and no flow control.
6. In the serial communications program, type the Enter key. The WVC16 should reply:

```
WVC16 ADMINISTRATION CONSOLE
```

```
-----
```

```
Enter h to display the help menu.
```

```
WVC16>_
```

7. To display the help menu, enter **h** (i.e. type **h** then type the enter key). The WVC16 should reply:

```
Administration Console Help Menu
```

```
c   : Clear error message log
d   : Display node settings
e   : Display logged error messages
g # : Change the gateway address
h   : Display this menu
i # : Change the node IP address
m   : Display MAC (Ethernet) address
p   : Display DHCP client status
p d : Disable the DHCP client
p e : Enable the DHCP client
s # : Change the subnet mask
u   : Undo all changes
v   : Display version information
x   : Reboot the unit
x f : Restore factory defaults and reboot
?   : Display this menu
```

```
# represents an IP address (xxx.xxx.xxx.xxx)
```

A complete explanation of the commands is presented in Appendix D of the WVC16 User's Guide.

8. Enter **p**. If the WVC16 replies:

```
DHCP is disabled.
```

The DHCP client is already disabled. Proceed to step 14 below.

If the WVC16 replies:

```
DHCP is enabled.
```

The DHCP client is still enabled and needs to be disabled. Continue to the next step.

9. Enter **p d**. The WVC16 should reply:

DHCP disabled. Reboot for changes to take effect.

10. Enter **x** to reboot the WVC16. The WVC16 should reply:

Reboot the unit? Enter Y to confirm: \_

11. Enter **y**. The WVC16 should reply:

Rebooting the unit. End of session.

and should then reboot.

12. Wait 5 seconds for the boot process to complete.

13. Type the Enter key. The WVC16 should reply:

```
WVC16 ADMINISTRATION CONSOLE
-----
```

Enter h to display the help menu.

WVC16>\_

14. Enter **d**. The WVC16 should reply:

Address	Current	After Reboot
-----	-----	-----
IP Address	0.0.0.0	no change
Gateway	0.0.0.0	no change
Subnet Mask	0.0.0.0	no change

The actual Current address you see may be different. Take note that the order of the listing is different from the way Microsoft lists them in the TCP/IP Properties box.

15. Here is where you will enter the desired IP address of the WVC16. A safe address to use is the one shown in the example below. A router will ignore the 192.168 address.

Enter **i** followed by the desired IP address.

Example: i 192.168.1.10

The WVC16 should reply:

IP address changed. Reboot for changes to take effect.

16. You do not need a specific Gateway address for using the unit in a direct connection mode. Set to the following:

Enter **g** followed by the numbers shown below:

Example: g 0.0.0.0

The WVC16 should reply:

Gateway address changed. Reboot for changes to take effect.

17. You do not need a specific Subnet Mask. Set to the following:

Enter **s** followed by the numbers shown below:

Example: s 255.255.255.0

The WVC16 should reply:

Subnet mask changed. Reboot for changes to take effect.

18. Enter **d**. Assuming the above examples, the WVC16 would reply:

Address	Current	After Reboot
-----	-----	-----
IP Address	0.0.0.0	192.168.1.10
Gateway	0.0.0.0	0.0.0.0
Subnet Mask	0.0.0.0	255.255.255.0

19. Verify that the “After Reboot” parameters are correct. If not, correct them using **i**, **g**, or **s** as required, or **u** to undo all the changes. When the “After Reboot” parameters are correct, enter **x** to reboot the WVC16. The WVC16 should reply:

Reboot the unit? Enter y to confirm: \_

20. Enter **y**. The WVC16 should reply:

Rebooting the unit. End of Session.

and should then reboot.

21. Wait 5 seconds for the boot process to complete.

22. Type the Enter key. The WVC16 should reply:

WVC16 ADMINISTRATION CONSOLE

-----

Enter h to display the help menu.

WVC16>\_

23. Enter **d**. Assuming the above examples, the WVC16 would reply:

Address	Current	After Reboot
IP Address	192.168.1.10	no change
Gateway	0.0.0.0	no change
Subnet Mask	255.255.255.0	no change

24. Verify that the Current parameters are correct. If so, the WVC16 is ready for connecting to the Ethernet network.

25. Disconnect the serial cable from the WVC16 and close the serial communications program. Now you need to get your PC ready for a direct Ethernet connection to the WebView demo system.

### Configuring Your PC for a Direct Ethernet Connection

You more than likely use your PC to connect to your office network. If that is the case, then your PC network configuration is more than likely set to automatically find an IP address (if your system has a DHCP server) or you have a specific IP address programmed in order to get to the network. In either case, those will not work for this application. You will need to change the settings to get to the WebView system. In the above example, the IP address of the WVC16 is 192.168.1.10. Your PC needs to know how to get to that network. You have to assign an IP address for your PC (because it has to become part of that network). For this example use the address 192.168.1.1. Actually, the last group of digits can be any number up to 254 except for 0 or 10 (because 10 is the address of the demo system). Follow the steps below to set the address:

1. If the Network (Neighborhood) icon is located on your Desktop, right click on the icon and select properties. If it is not on your Desktop, go to your Control Panel and select the Network and Dial-up Connection icon. This example uses Windows 2000. Your windows might look a little different, but will have similar settings.
2. Somewhere in the list you should have a Local Area Connection, as shown in Figure A1. Right click on that and select properties again. This will open the Local Area Connection Properties box, also shown in Figure A1. One of the components in the list should be Internet Protocol (TCP/IP). Hi-lite that item and click the properties button. Take note of your current settings so you can restore them later.

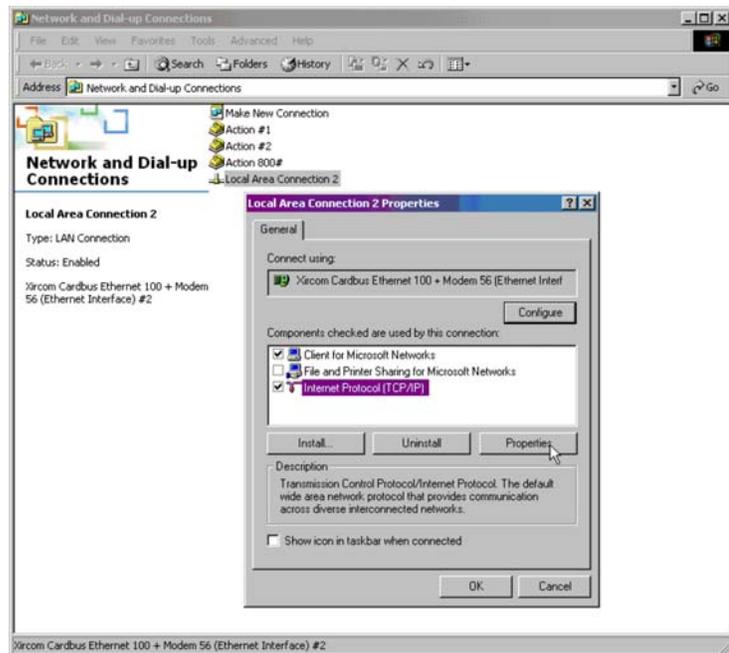


FIGURE A1

3. In the Internet Protocol (TCP/IP) Properties Box (shown in Figure A2) you probably have “Obtain an IP address automatically” checked. Change this by clicking the radio button for “Use the following IP address:” You will now be able to enter numbers in the boxes for IP address, Gateway and Subnet Mask. For the IP address, in the example above, use 192.168.1.1. For the Gateway and Subnet values, use the numbers you entered into the WVC16. You do not need to enter any numbers in the DNS server section. Click OK when completed.

You may need to re-start your computer for the changes to take effect. You are now ready to connect the WebView I/O demo system to your PC. The next step is to connect the system to your PC and get the WVC16 Home Page displayed. Follow the directions listed in the next section.

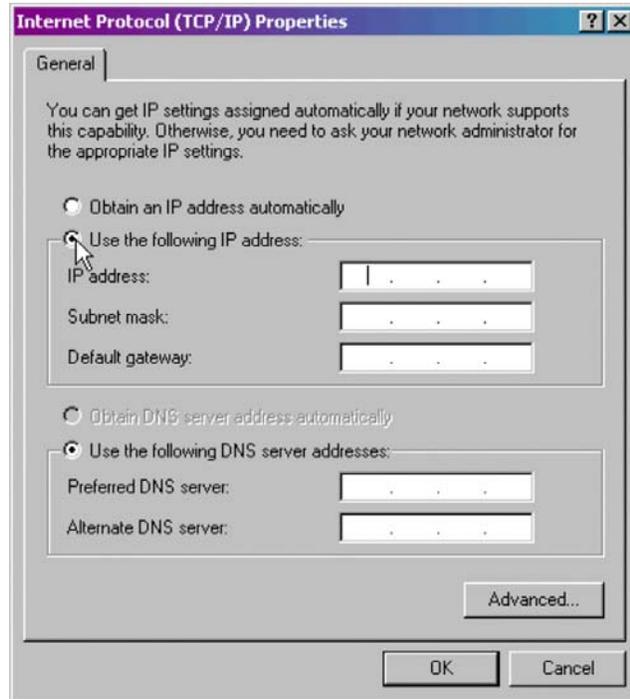


FIGURE A2

### Displaying the WVC16 Home Page

To access the system, you will need a web browser installed on your PC. The browsers supported by Eurotherm for the WVC16 are Internet Explorer 5 or later and Netscape Navigator 4.7. The WebView I/O Data Viewer requires the Java Runtime Environment (JRE) 1.3.1. If you do not already have the JRE on your PC, it is located on the Accessory CD in the folder Java Plug-in 1.3.1\_02. Just run the .exe file located in that folder and you will be set to go. You do not have to copy the file to your PC. Simply run it from the CD.

1. If not already connected, connect a crossover cable from the WVC16 to the Ethernet port on your PC.
2. Verify that the LINK LED on the WVC16's front panel is on steady.
3. Make sure you have completed all the steps in the sections above to get the IP addressing correct.
4. Start your web browser on the computer.
5. In the web browser's address field, enter the WVC16's IP address. Just use the numbers, you do not need www preceding the numbers. Once you have done this the first time, you will only have to select it from your frequently used list (as long as the IP address remains the same). Wait for the WVC16 home page to load.

6. Verify that the WVC16 home page is correctly displayed as shown in Figure A3.
7. The WVC16's Ethernet configuration procedure is now complete. If the home page is not correctly displayed, see Appendix B: Troubleshooting Guide in the User Guide located on the accessory CD.

When you click on the [WebView I/O Data Viewer](#), this is where the JRE will be required. You will see a permission dialog box asking if you really want to accept having this information on your PC. It will also give you the ability to select if you want to just accept it for this session or all future session. This is a requirement from Sun Microsystems. At some point in the future, the time limit on the license will run out. It can either be ignored and go on or have the firmware updated from Eurotherm when that happens.

You will also be presented with a password dialog box. There are two levels of access, User and Admin. The User level only has access to view information and cannot change settings. The Admin level has the ability to change settings on the modules. The default user password is "password" and the default Admin password is "system." It is highly recommended that new passwords be assigned before deploying the units in the factory.

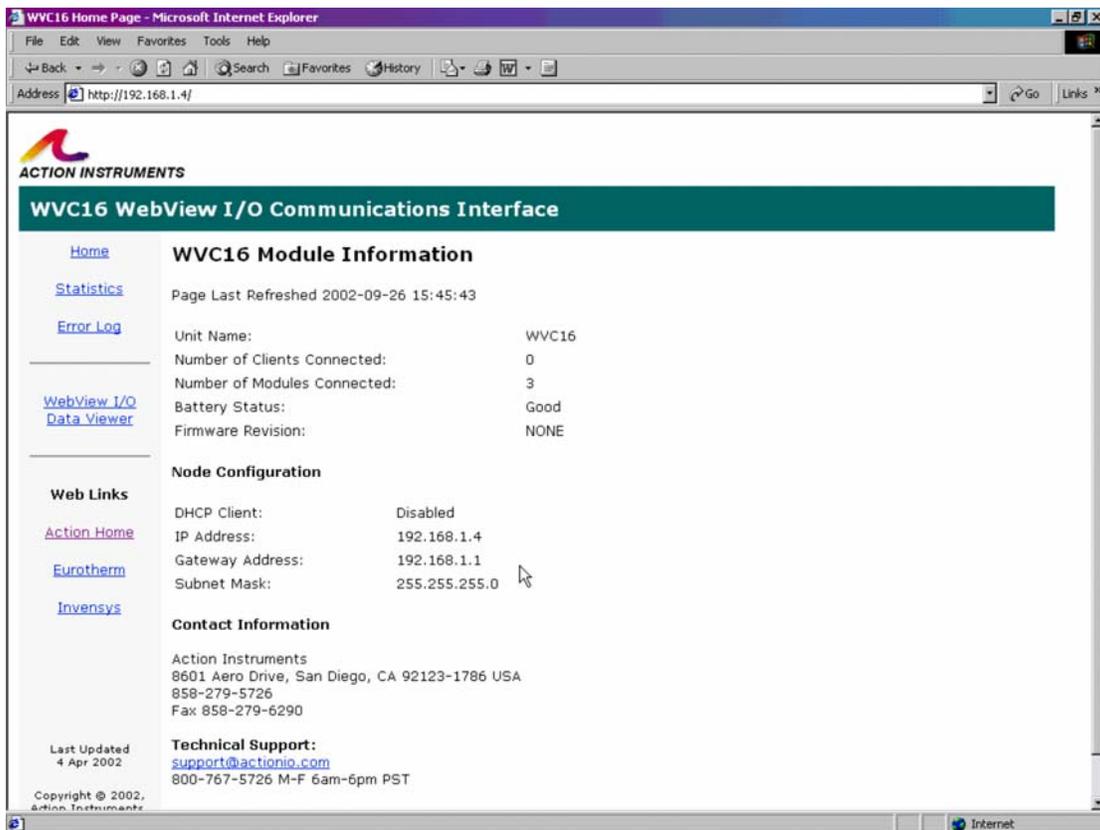


FIGURE A3

## Connecting to the Network

This section explains how to configure the WVC16 to connect to the company intranet. First you need to know whether or not the network has a DHCP server. [DHCP stands for Dynamic Host Configuration Protocol.] If it does, then all you have to do is go back into the Administration Console and enable DHCP client with the `pe` command and verify it happened. You can then attach the WVC16 to the network with a standard Ethernet Cat-5 cable, not the crossover cable you are using for the direct connect method.

*What is DHCP?* Let's stop here for a moment and take an elementary look at how a DHCP server functions. Basically what a DHCP server does is assign an IP address to devices as they connect to the network. It is very possible that every time you log onto the network, your computer gets a new IP address. The same will be true for the WVC16. The DHCP software, as it comes from Microsoft, has a default "lease" time for an IP address of 3 days. That means if you leave the network and get back on within the lease period, you will maintain the same IP address. Of course if you are off longer than the lease period, you will be assigned a new IP address. While many system administrators rely on the default setting of 3 days, the boxes for setting the time allow the value to be in the range of minutes.

How does this affect the WVC16? If your network has a DHCP server and you decide to select the DHCP enabled setting, the WVC16 can never be shut down for longer than the lease period, if you want to use the same address in your browser to get to the unit. You also have the problem of needing to know what address has been assigned to the unit. The **only** way to do this is to disconnect the Ethernet cable from the WVC16 and re-connect the RS-232 cable to use the Administration Console. You can then poll the device with the `da` command to find out what IP address was assigned. You then disconnect the RS-232 cable and re-connect the Ethernet cable. Use the IP address you just read from the WVC16 and enter this into your browser. You will have to go through this procedure every time the unit receives a new IP address. **Eurotherm strongly recommends that you simply have your network administrator assign a fixed IP address and you will always be able to use the same address to access the WVC16.** This is the way devices such as printer servers are generally handled.

Don't forget, when you ask the network administrator for an IP address, you will need the Gateway and Subnet Mask addresses as well. You will then have to go back in to the Administration Console and load in the assigned addresses for the IP Address, the Gateway and the Subnet Mask. Just repeat the 25-step process above with those numbers and you will be set.

If you have used your computer for a direct connection to the WVC16, you will have to go back in to the TCP/IP properties box and re-load the settings you wrote down before using the WVC16. This seems like a complicated process, but after you have done it a couple of times it will seem easy. Just take your time and make sure you carefully enter the correct commands and numbers for each step.