

## Chapter 5

### ***uM260 LAN SETUP PROCEDURE***

This appendix section describes how to set up the LAN version of the uM260 Micro Monitor (System Studies Part No. 9800-6260L) and access the text menu interface. The information below assumes that you have already obtained a source of –48V DC power and the uM260 is connected to this power supply. If you have not yet provided power to the unit (as described in Chapter 4 of this manual), please do so before proceeding.

#### ***Setup Prerequisites***

The following items and/or information should be made available before you begin the setup procedure:

- IP address for the uM260.
- Appropriate Netmask for your network.
- Serial cable to connect the uM260 to a laptop or desktop computer equipped with a serial port and either the Windows 2000 or XP operating system. Please look for a third party communications package if you are using Windows 7 or 8.

#### ***Establishing Communications***

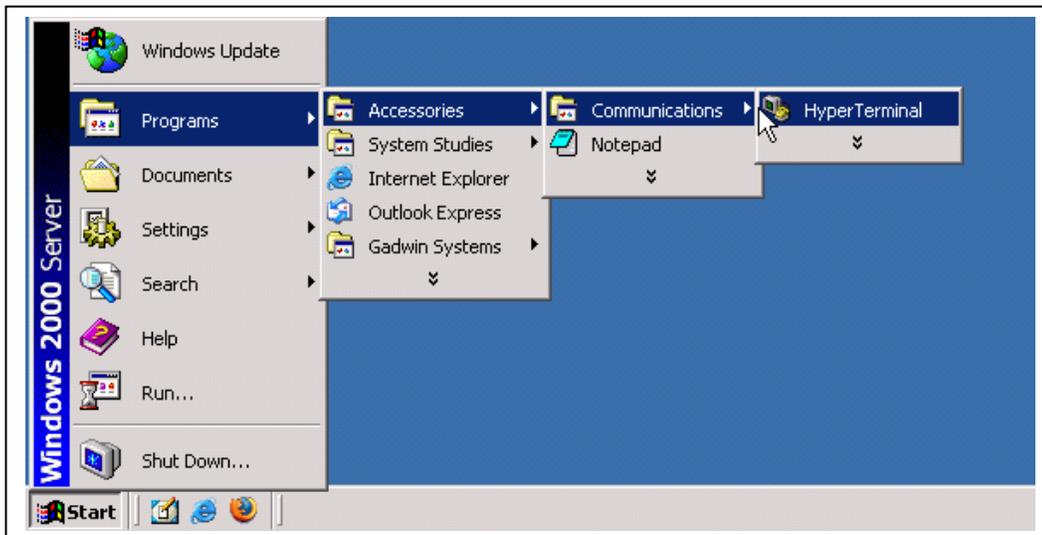
The following information explains the setup procedures and requirements for using HyperTerminal to connect to the uM260 monitor. Similar setup requirements pertain to other communications packages. Once these procedures have been followed, you can proceed to enter IP information for the monitor, as described in the Server Configuration subsection.

#### ***Procedure:***

1. Make sure the uM260 Micro Monitor is turned OFF before you begin. The power On/Off switch is located on the back right edge of the monitor.

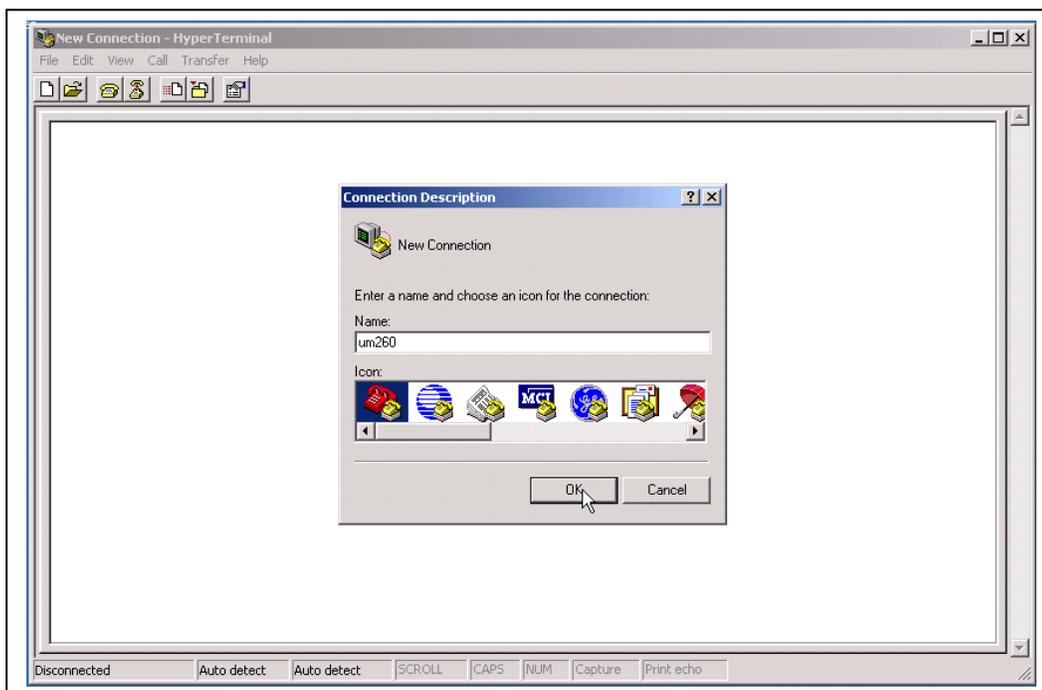
#### **! IMPORTANT !**

2. Connect one end of the serial cable into an available COM port at the back of your computer; connect the other end to the uM260. Also make sure that the network cable is NOT connected to the uM260 during the HyperTerminal setup session. If it is, unplug it—otherwise, the two cables will compete for DCD (data carrier detect), and the conflicting devices will produce erratic results.
3. Launch HyperTerminal on your Windows system. The utility can be accessed from the Windows Start button located in the lower left corner of the display window. The following screen example (SCREEN 5-1) shows the menu selection route needed to find HyperTerminal on your Windows system. The utility is available by clicking Programs, Accessories, Communications and HyperTerminal.



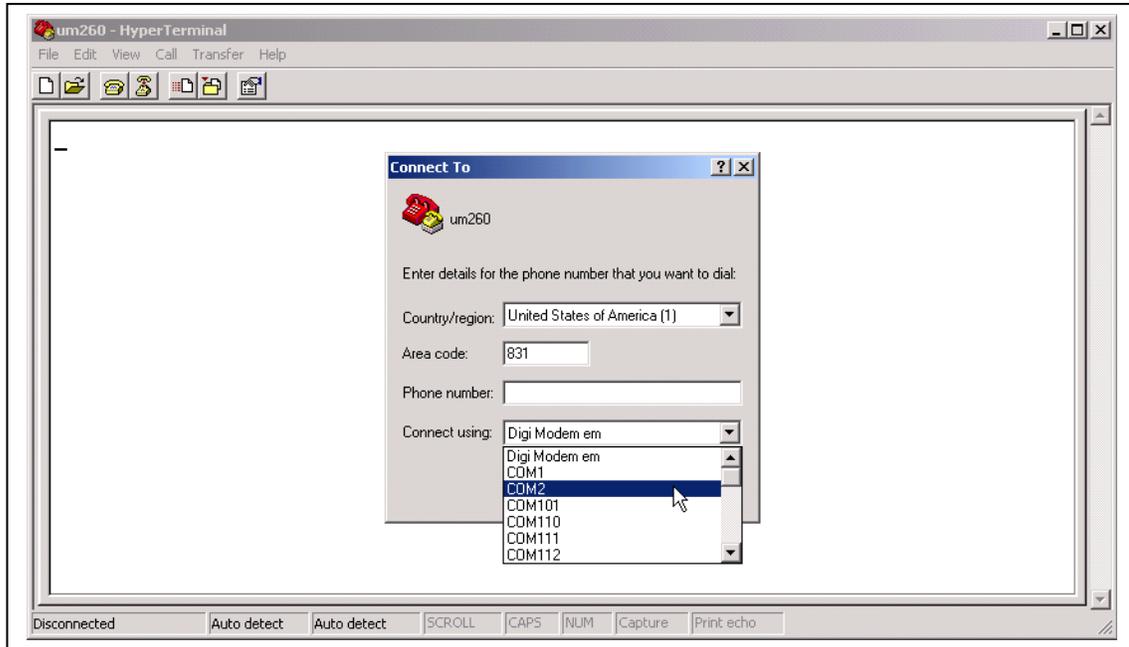
SCREEN 5-1: LAUNCHING HYPERTERMINAL

4. Click on the HyperTerminal icon, and the following Connection Description box displays (SCREEN 5-2 below).



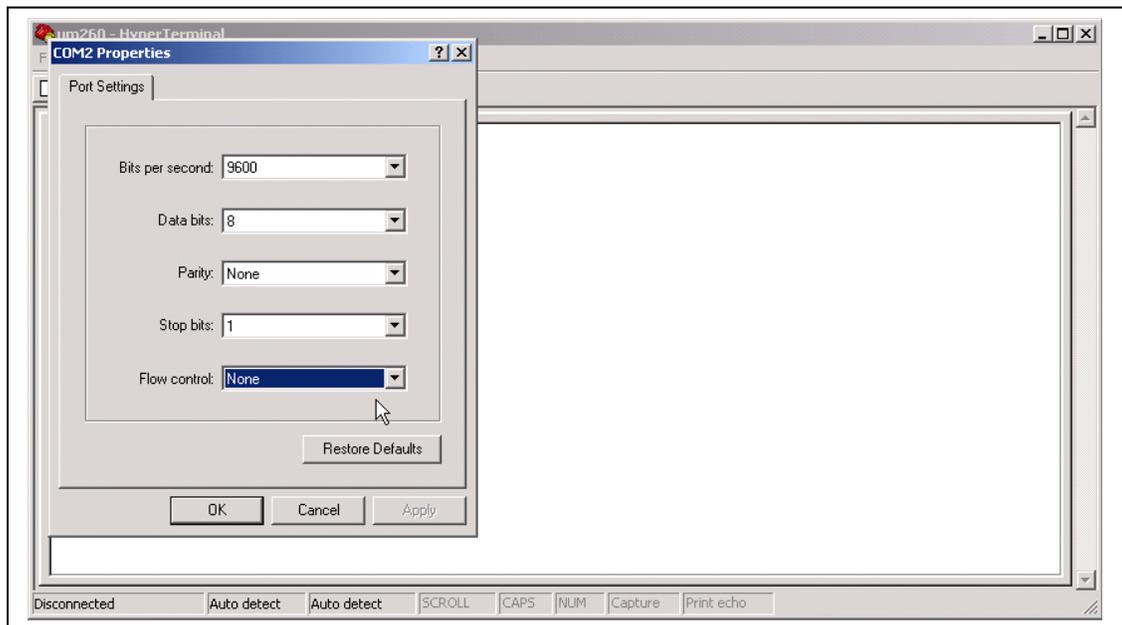
SCREEN 5-2: CONNECTION DESCRIPTION BOX

5. Create a new connection called uM260 by typing this designation in the *Name* text box and clicking OK. This produces some additional information in the *Connect To* box shown in SCREEN 5-3.



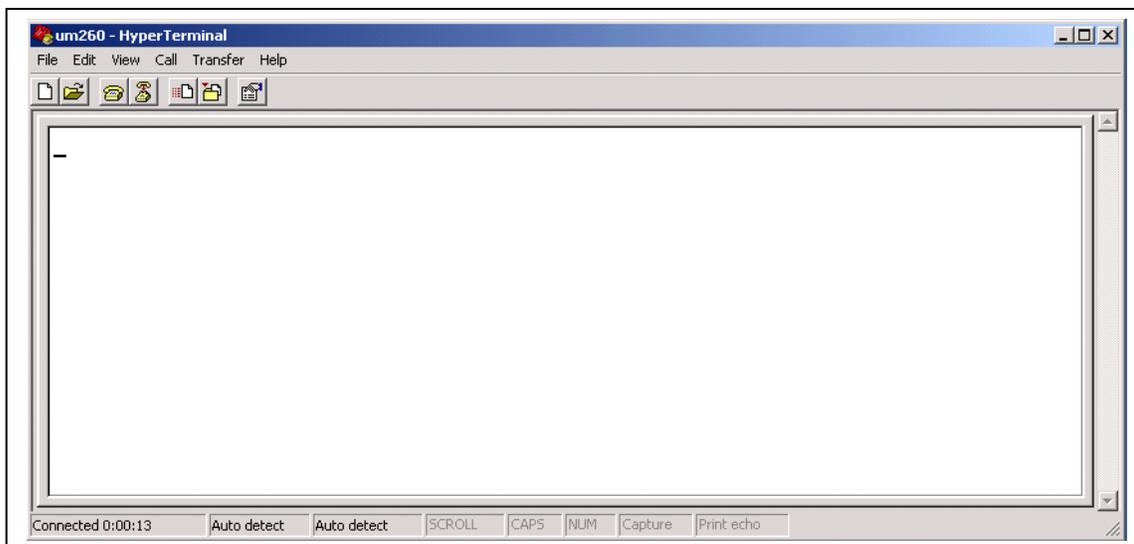
SCREEN 5-3: CONNECT TO BOX

6. From the *Connect using* drop down menu, select the COM port designation that the serial cable is connected to. On many systems this is the COM2 port. After selecting the COM port, the Port Settings properties box will appear, as shown in SCREEN 5-4 below.



SCREEN 5-4: PORT SETTING PROPERTIES BOX

7. Make sure that each field is set exactly like the ones shown above (Bits per second: 9600, Data bits: 8, Parity: None, Stop bits: 1, and Flow control: None.). Make any changes necessary, and then click the OK button at the bottom of the *Port Settings* box. Next, you will see the following blank screen.

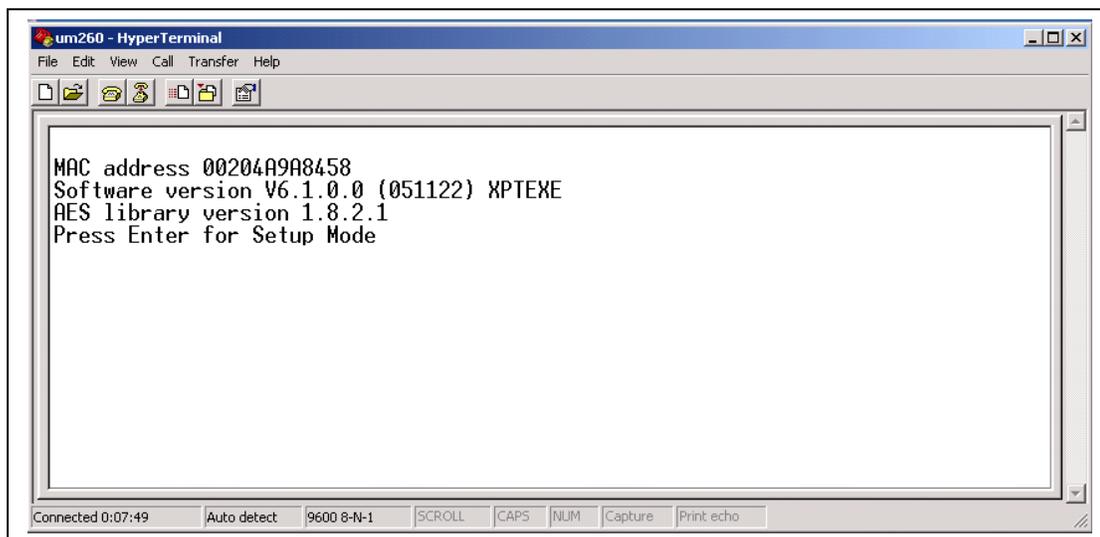


SCREEN 5-5: HYPERTERMINAL BLANK SCREEN WITH CURSOR

**! IMPORTANT !**

At this point you will need to perform a simultaneous procedure at the keyboard and the uM260 monitor. You will need both of your hands free to perform this procedure.

8. With the HyperTerminal Screen displayed (as in Screen 5-5), hold down the **X** key on your keyboard, then turn the power switch at the back of the uM260 to the On position. When you see the banner information display (SCREEN 5-6), release the X key and press **<Enter>**.



SCREEN 5-6: UM260 INITIAL CONNECTION SCREEN

**Note:** If you wait more than six seconds before pressing **<Enter>**, you will see **?!?**, which indicates that the uM260 is no longer in setup mode. If this is the case, repeat the setup procedure from step 3.

Once you have successfully performed step 8 above, several lines of information will display ending with the Change Setup Menu shown near the bottom of the screen (SCREEN 5-7).

```

um260 - HyperTerminal
File Edit View Call Transfer Help

Re-notification interval : 0 s
- Trigger 3
Serial trigger input: disabled
Channel: 1
Match: 00.00
Trigger input1: X
Trigger input2: X
Trigger input3: X
Message :
Priority: L
Min. notification interval: 1 s
Re-notification interval : 0 s

Change Setup:
0 Server
1 Channel 1
3 E-mail
5 Expert
6 Security
7 Defaults
8 Exit without save
9 Save and exit
Your choice ? _

Connected 0:00:13 Auto detect 9600 8-N-1 SCROLL CAPS NUM Capture Print echo

```

**SCREEN 5-7: CHANGE SETUP MENU**

## ***Server Configuration***

Once the Change Setup Menu appears at the bottom of the HyperTerminal window, you are ready to enter the required IP information, as described below. Please make sure that you have the necessary information (IP Address, Gateway IP Address and Netmask) written down and ready for quick access before you proceed.

### ***Procedure:***

#### **IP Address**

1. At the Change Setup Menu, select the *Server* option by pressing zero ( **0** ) followed by **<Enter>**. This input generates a series of individual prompts for entering each of the four octets which comprise your IP address. (An octet is a dotted-decimal equivalent of eight binary numbers.) The first screen prompt displayed is shown below:

IP Address : (000)

2. Enter the first octet and press **<Enter>** (or **.**). For example:

```
IP Address : (000) 10.(000)
```

3. Enter the second octet and press **<Enter>** (or **.**).

```
IP Address : (000) 10.(000) 1.(000)
```

4. Enter the third octet and press **<Enter>** (or **.**).

```
IP Address : (000) 10.(000) 1.(000) 0.(000)
```

5. Enter the last octet and press **<Enter>** (or **.**).

```
IP Address : (000) 10.(000) 1.(000) 0.(000) 131.
Set Gateway IP Address (N) ?
```

### Gateway IP Address

Once the IP address has been entered, you are ready to input the Gateway IP address. The gateway address, or router, allows communication to other LAN segments. The gateway address should be the IP address of the router that is connected to the same LAN segment as the uM260 monitor. The gateway address must be within the local network. The default is N (No), meaning the gateway address has not been set.

6. To set the gateway address, type Y and then enter the address as described above for the IP address. After you enter the final octet and press **<Enter>**, a prompt for the netmask will display on the screen, as shown below. A netmask defines the number of bits taken from the IP address that is assigned for the host part.

```
Netmask: Number of Bits for Host Part (0=default) (0) _
```

### Netmask Setting

**Note:** TABLE 5-1 on the following page shows the Host Bits and Netmask equivalent for each of the three Network Classes. The uM260 equipment prompts for the number of host bits to be entered, then calculates the netmask, which appears in standard decimal-dot notation (for example, 255.255.255.0) when the saved parameters display.

Locate your assigned netmask number in the Netmask section of the table (TABLE 5-1). The corresponding number in the Host Bits column represents the value that you need to enter at the prompt displayed above.

		Netmask				Host Bits
Class A	255	0	0	0	24	
	255	128	0	0	23	
	255	192	0	0	22	
	255	224	0	0	21	
	255	240	0	0	20	
	255	248	0	0	19	
	255	252	0	0	18	
	255	254	0	0	17	
Class B	255	255	0	0	16	
	255	255	128	0	15	
	255	255	192	0	14	
	255	255	224	0	13	
	255	255	240	0	12	
	255	255	248	0	11	
	255	255	252	0	10	
	255	255	254	0	9	
Class C	255	255	255	0	8	
	255	255	255	128	7	
	255	255	255	192	6	
	255	255	255	224	5	
	255	255	255	240	4	
	255	255	255	248	3	
	255	255	255	252	2	

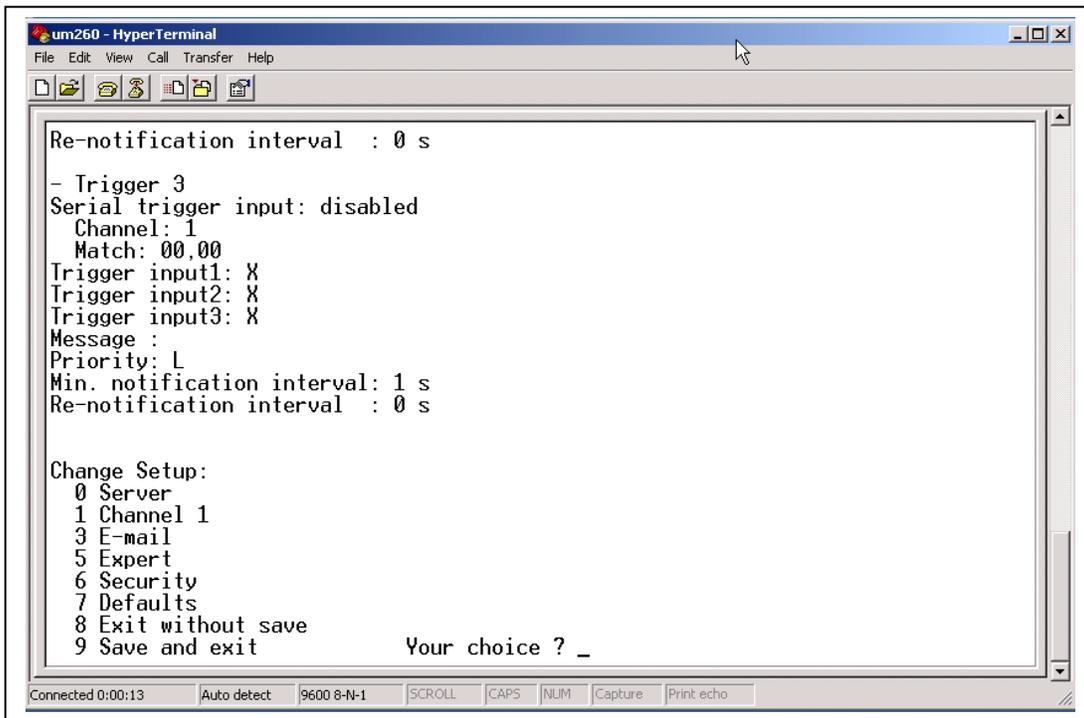
TABLE 5- 1: NETMASK INFORMATION

**! IMPORTANT !**

Once you have entered the Host Bit information, the screen prompts you to accept or change the Telnet configuration password (below). It is important for future System Studies uM260 support that you do NOT change the telnet configuration password. If you do, System Studies may not be able to access the monitor and perform any troubleshooting that may be required.

Change telnet config password (N) ? \_

7. Answer **N(o)** to this question (pressing **<Enter>** is not required). After answering the *Change telnet config password* question, the Change Setup Menu will display, as shown below:



```
um260 - HyperTerminal
File Edit View Call Transfer Help

Re-notification interval : 0 s
- Trigger 3
Serial trigger input: disabled
  Channel: 1
  Match: 00,00
Trigger input1: X
Trigger input2: X
Trigger input3: X
Message :
Priority: L
Min. notification interval: 1 s
Re-notification interval : 0 s

Change Setup:
 0 Server
 1 Channel 1
 3 E-mail
 5 Expert
 6 Security
 7 Defaults
 8 Exit without save
 9 Save and exit
Your choice ? _

Connected 0:00:13  Auto detect  9600 8-N-1  SCROLL  CAPS  NUM  Capture  Print echo
```

SCREEN 5-8: CHANGE SETUP MENU

8. At the Change Setup Menu, select option **9**, Save and exit, followed by **<Enter>**. This completes the Server Configuration process.

### Setup Completion

9. The last procedures are to turn off the uM260 monitor, remove the serial cable from the monitor, plug a network cable into the uM260, and turn the power to the unit back on.

## **Web Interface Test**

After configuring the uM260 for network connectivity, test the connection by accessing the Micro Monitor with a web browser.

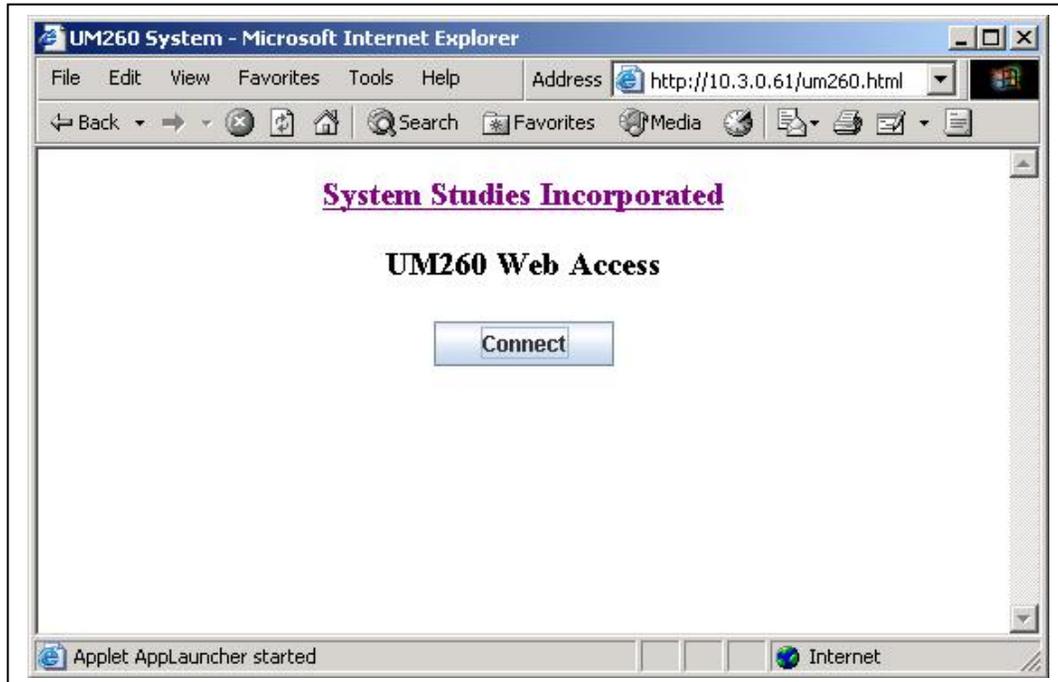
### **Procedure:**

1. Launch your browser and type the *IP address* and *file information* shown below into the address or url line of the browser. Then press **<Enter>**.

*http://IP-Address-of-uM260/um260.html*

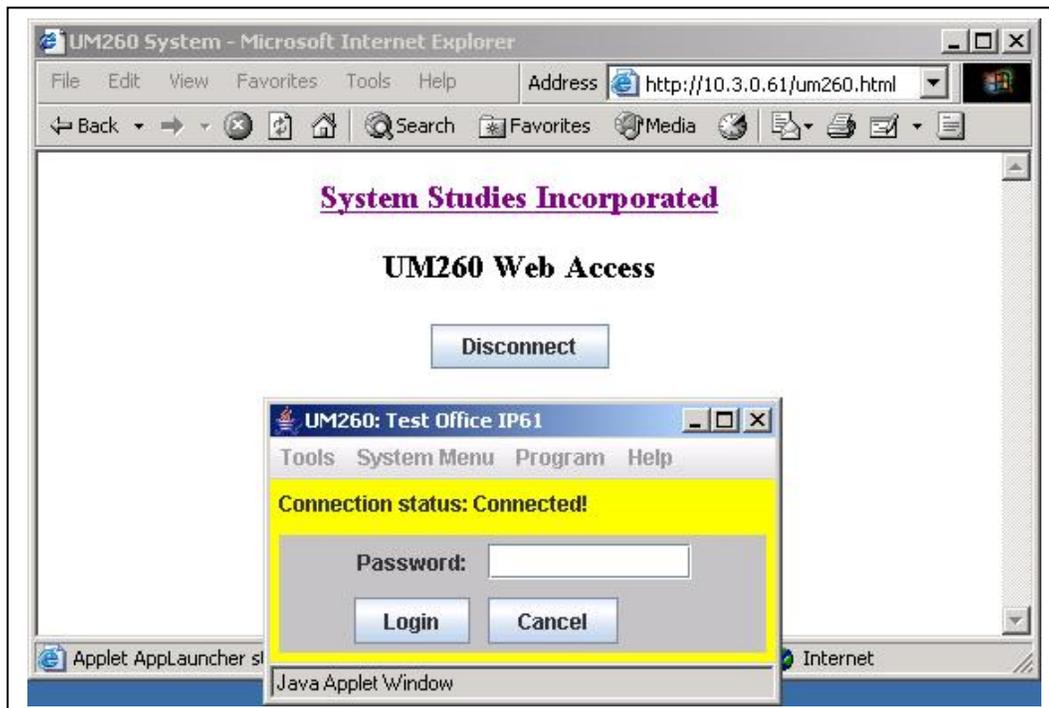
A typical browser entry might look like this: <http://10.2.0.144/um260.html>

When you have connected to the monitor, you will see the uM260 Web Access window (SCREEN 5-9).



SCREEN 5-9: UM260 WEB ACCESS

2. Press the **Connect** button. The Connection Status popup window will display as shown in SCREEN 5-10. Note that the button name in the browser window will change to **Disconnect** after the login java applet window displays.



SCREEN 5-10: UM260 LOGIN

3. Since the purpose of this procedure is merely to test Web interface connectivity, and data has not yet been added to the uM260's database for viewing (this process will be performed in the PressureMAP or CopperWATCH data entry editor), it is not necessary to enter a password and actually log in.
4. Press the **Cancel** button in the java applet window; then press **Disconnect** at the Web Access Screen. This will close the session.

### ***Telnet Interface Test***

The following information describes how to initiate a Telnet connection to the newly configured uM260 and test the communications settings. Once you have completed this procedure, you can be confident that the LAN version of the Micro Monitor will be accessible to everyone with a local network connection.

#### ***Procedure:***

1. Click the **Start** button located at the bottom left corner of your screen, and scroll up to select and click on **Run** (SCREEN 5-11).



**SCREEN 5-11: INITIATING TELNET SESSION WITH RUN**

After a second or two, the Run dialog box appears (SCREEN 5-12).



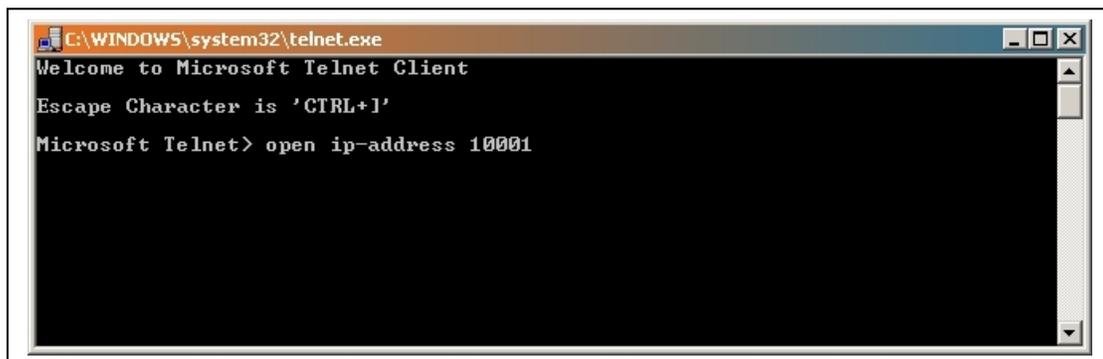
SCREEN 5-12: RUN COMMAND LINE ENTRY

2. Type **telnet** and click the OK button. This entry produces the DOS window shown below:



SCREEN 5-13: TELNET CLIENT DOS WINDOW

3. On the *Microsoft Telnet* line type **open** follow by the **IP Address** of the uM260, a blank space, and then the port number, *10001*. SCREEN 5-14 below shows an entry in the format required (the actual numeric IP address would replace ip-address in this example).



SCREEN 5-14: TELNET COMMAND ENTRY

4. Press **<Enter>** to access the uM260's login menu (example below). This confirms that the communication settings have entered correctly.

```
Password  ##### >
```

SCREEN 5-15: UM260 PASSWORD PROMPT

5. Since you will not need to perform data entry directly within the uM260 database, simply type **exit** to log out of the system.

Once the LAN version of the uM260 has been set up as described in the subsections above, and data entry for the Micro Monitor has been performed in the PressureMAP or CopperWATCH editor, you can use the software to upload the office (monitor) information and data files for the uM260. This procedure requires accessing the software's MAP Programs Menu, selecting the User Initiated Operations option and option 1 (Acquire New Current Readings).

More detailed information about performing this procedure is described at the end of Section 3 of the *CopperWATCH Installation & Data Entry Manual*.