EAGLE 100 SYSTEM
CODE UPGRADE PROCEDURE

RECORD OF CHANGES

Change #	Date	Description	Entered By
A	09/09	Created	D. Sedgwick

EAGLE 100 - SOFTWARE UPGRADE PROCEDURE

Software Upgrade Procedure for the Eagle 100

Firmware files for the Eagle 100 system that are loaded into the hardware at power-up, are stored in a flash memory area onboard the unit. The flash memory area is accessible by using system commands through the Serial 1 port on the back of the Eagle 100 or over the Ethernet connection at the back of the unit

The primary method of upgrading the firmware in the unit is through the serial port using the flash loader supplied with each upgrade. This method is the easiest to setup and use. An alternate method uses a small network consisting of a PC/Laptop, a hub, and the Eagle 100 unit but still requires a serial port to be connected.

The Flash loader utility provides the capability to update the system Flash module with the latest revision of software. The upgrade utility can be run from a PC hard drive recommended) or a floppy drive. Running the loader from a floppy drive is discouraged though due to the slow speeds associated with disk access.

Upgrade Method 1 (Using the Serial Port)

Configuring the PC/laptop to communicate with the Eagle 100 system

The following procedure assumes that the PC/laptop already has RS232 Serial Terminal software installed so that the PC can send serial commands to the Eagle 100 unit.

This procedure was written using Windows XP as the PC operating system. PC's with other systems can be used but the windows are different.

Connecting the PC to the Eagle 100

1. Copy all the files of the new firmware revision to a single directory on the PC.

2. Connect the Serial(1) port on the back of the Eagle 100 to a comport on the PC.

3. Power-up the Eagle 100 and the PC.

4. Launch the FlashLoader.exe program from the firmware revision directory and the following program should start (if not using COM 1, a confirmation note will be displayed when the program starts).
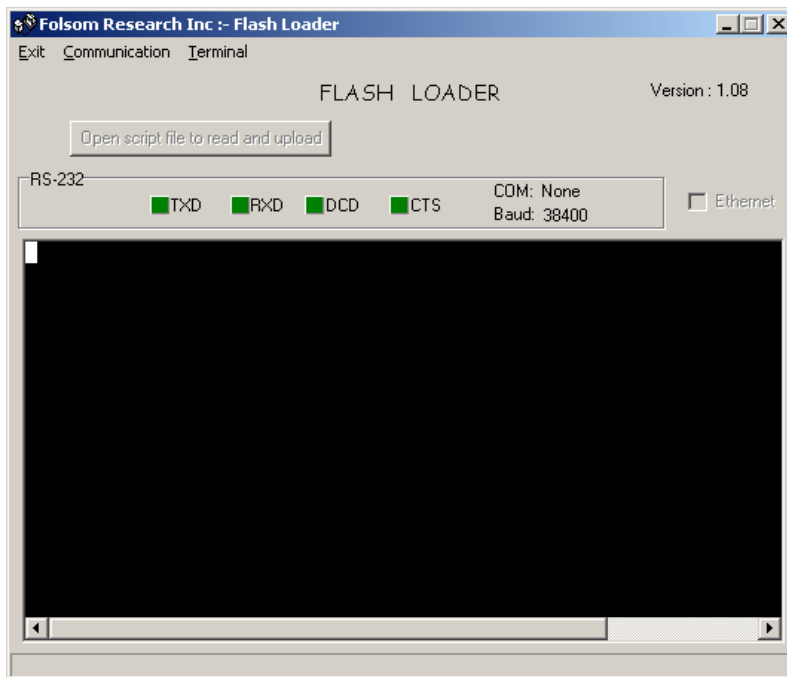
5. From the Flash Loader Program Communication menu, select a baud rate of 115200.

6. From the same menu, select the PC COM port that you connected to the Eagle 100. If no other programs are using the COM port, the "Established

communications …" message is displayed at the bottom of the Flash Loader Program.

Verifying Communications between the Computer and Unit

1. In the loader program, click in the Black Terminal Window area.

2. Several status lights are shown above this area. DCD and CTS should be RED, while TXD and RXD are GREEN (They will flash if Enter is pressed).

3. Pressing the keyboard enter key a couple of times will allow the system prompt "#" to be displayed on the screen. If a prompt does not show up in the window, proceed with the following troubleshooting steps.

Troubleshooting the Serial connection

1. If the CTS and DSR status lights on the Flash Loader are RED, skip to Uploading Files to the Unit.

2. If the CTS and DSR status lights are GREEN, check the communication settings in the loader again and verify the COM port and Baud Rate are correct.

3. From the front panel, SYSTEM, Console Menu, verify the following:
   BAUD RATE = 115200
   DATA BIT   = 8
   PARITY   = NONE
   STOP BIT   = 1

4. If any of the communication parameters are changed from the menu, reselect   the PC COM port from the Flash Loader GUI communication menu.

Uploading Files to the Unit

1. Once communications have been established and verified, click on the "Open script file to read and upload" button.

2. Select "Upload_All.sld" and click OPEN. The Eagle 100 unit should immediately display "System in LOADER MODE" on the front panel.

3. It takes several minutes to load the flash. When the loading is complete, the loader utility will display the Upload Complete Message. Press OK.

4. Once this is done, recycle power on the unit and exit the flash loader utility.

5. Using the front panel SYSTEM, Reset menu, perform a factory reset by adjusting the Reset Type to Factory and hitting the soft Reset button. Then, at the confirmation message select Yes.

6. Verify the new software has been loaded correctly by checking the SYSTEM, Status Menu on the Eagle 100 front panel.

Upgrade Method 2 (Ethernet)

Configuring the PC/laptop to communicate with the Eagle 100 system

The following procedure assumes that the PC/laptop already has an RS232 Serial Terminal software installed so that the PC can send serial commands to the Eagle 100.

This procedure was written using Windows XP as the PC operating system. PC's with other systems can be used but the windows are different.

Important note:
Do not connect the Eagle 100 to a Local Area Network (LAN) with an existing DHCP server running.

The factory default IP address ranges for the Eagle 100 System is: 192.168.0.10 so the PC will use 192.168.0.191 as its IP address.

Connecting the PC/Hub/Eagle 100

1. Copy all the files of the new firmware revision to a single directory on the PC.

2. Then configure a small network system consisting of only a Hub, the Eagle100, and a computer (PC/laptop), do not connect this small network to any other network.

3. Also connect the Serial(1) port on the back of the Eagle 100 to a comport on the PC.

4. Power-up the Eagle, Hub and computer.

Assigning static IP address to the PC/laptop

1. On the PC/laptop, go to the Start button, and click on Control Panel (or "Settings→Control Panel" in Windows 2000).

2. Double click on the Network Connections icon. Verify the status on the Local Area Connection is enabled as shown below.
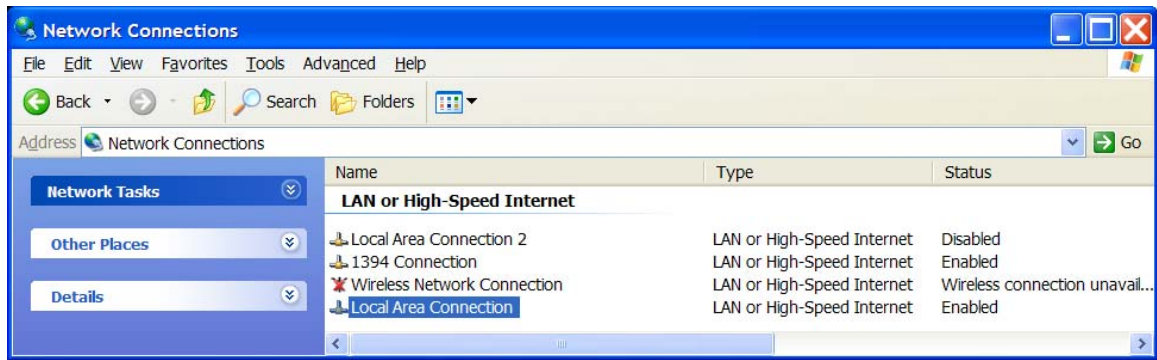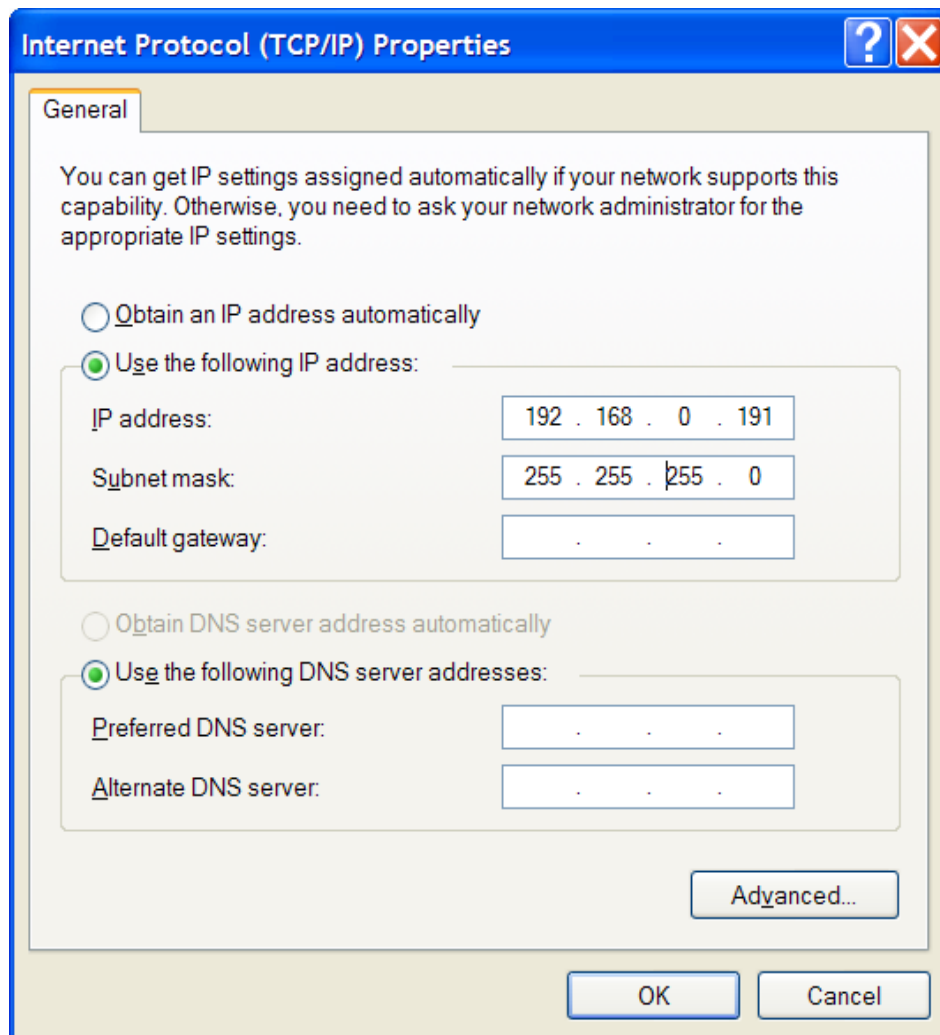
3. If the status indicates that it is disabled, please contact your network administrator.

4. If the status indicates that it is enabled, **right** click on the Local Area Connection.

5. Click on Properties and the following will appear.
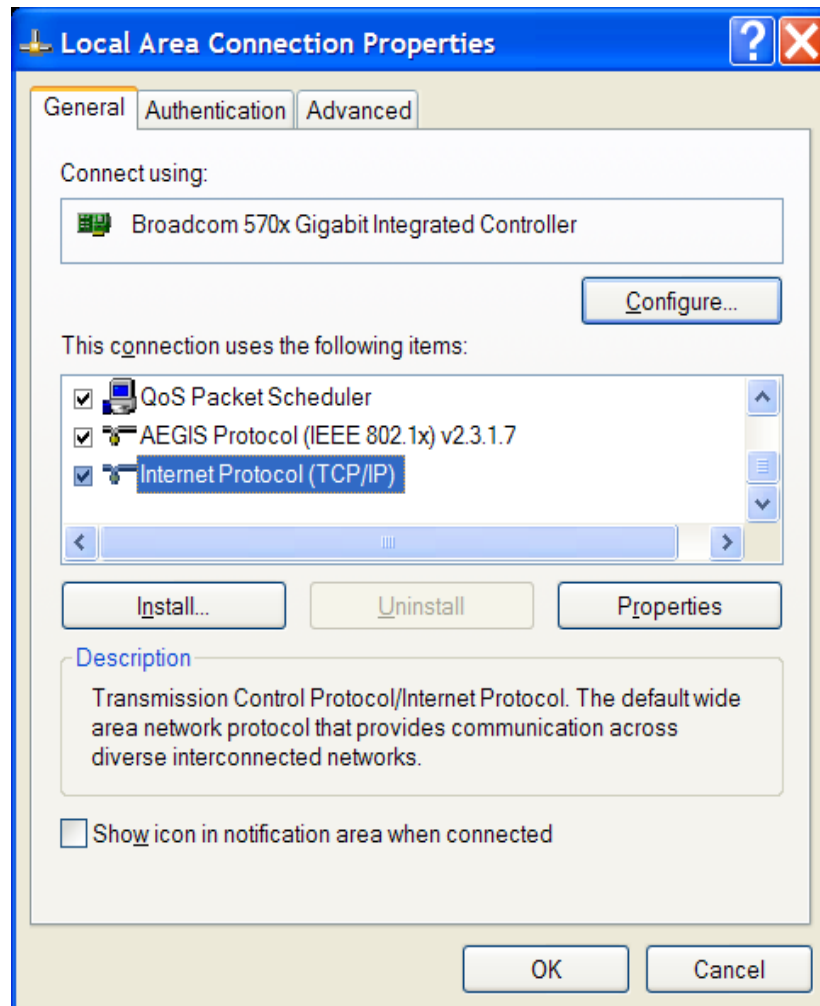
6. Make sure the Internet Protocol (TCP/IP) checkbox is checked.

7. Click on Internet Protocol to highlight it, and then click on the Properties button.

8. Verify that the following window appears and that the "Use the following IP address" option is checked, as shown in the following figure.

Internet Protocol (TCP/IP) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically

● Use the following IP address:

IP address:	192 . 168 . 0 . 191
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	. . .

○ Obtain DNS server address automatically

● Use the following DNS server addresses:

| Preferred DNS server: | . . . |
| Alternate DNS server: | . . . |

Advanced...

OK   Cancel

9. Set the IP Address to be 192.168.0.191 (See note below).
    Note:
    The figure above is selecting the IP address 192.168.0.191 as the static IP address
    for the PC/laptop as this IP address is in the user defined IP address range. If this
    IP address has been assigned to another device, please select a different IP address
    in the between 192.168.0.191 and 192.168.0.240

10. Set the Subnet Mask to be: 255.255.255.0

11. Set the Default Gateway to 192.168.0.1.

12. When you are done, click the OK button to close the window (close all control
    panel windows).

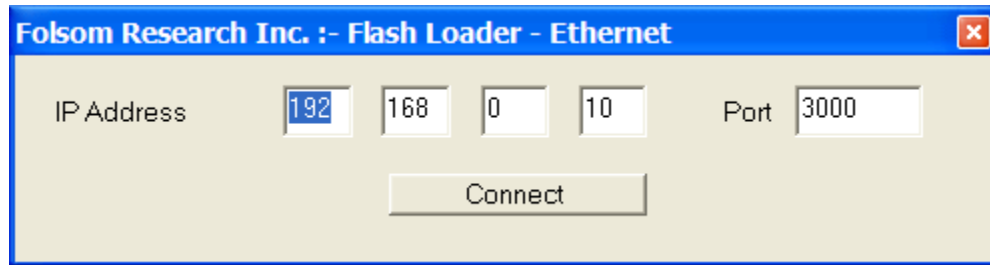13. Use a DOS box, IPCONFIG command, to check the IP address is correct, if
    desired.

Connect to the Eagle 100 serial port (1)

1. Open an RS232 serial terminal on the PC and set the baud to 115200. (N, 8, 1)

2. From the terminal Type "WHOAREYOU?" to the Eagle and ensure that the Main Application response is returned Eagle 100 Application).

3. From the terminal send the "LOADR" command and wait a few seconds for the BootBURNER to discover it cannot connect to a DHCP server.

4. On the RS232 Serial terminal type: "WHOAREYOU". Check that we are talking to the Eagle Flash Burner.

5. On the RS232 Serial Terminal type the following commands:

    DHCP 0   (might have to wait 10 seconds until it binds to 192.168.0.10.)

6. Run the FlashLoader program from the firmware revision directory and the following window should appear:
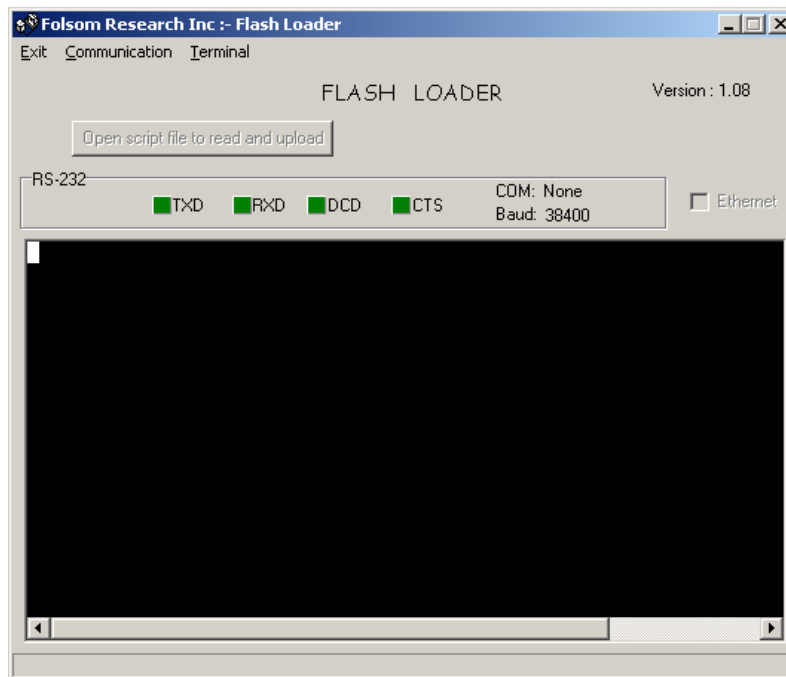
7. Click on the menu Communication->Ethernet->Connect (if Ethernet is grayed, set the COM port to none). The following window will appear:
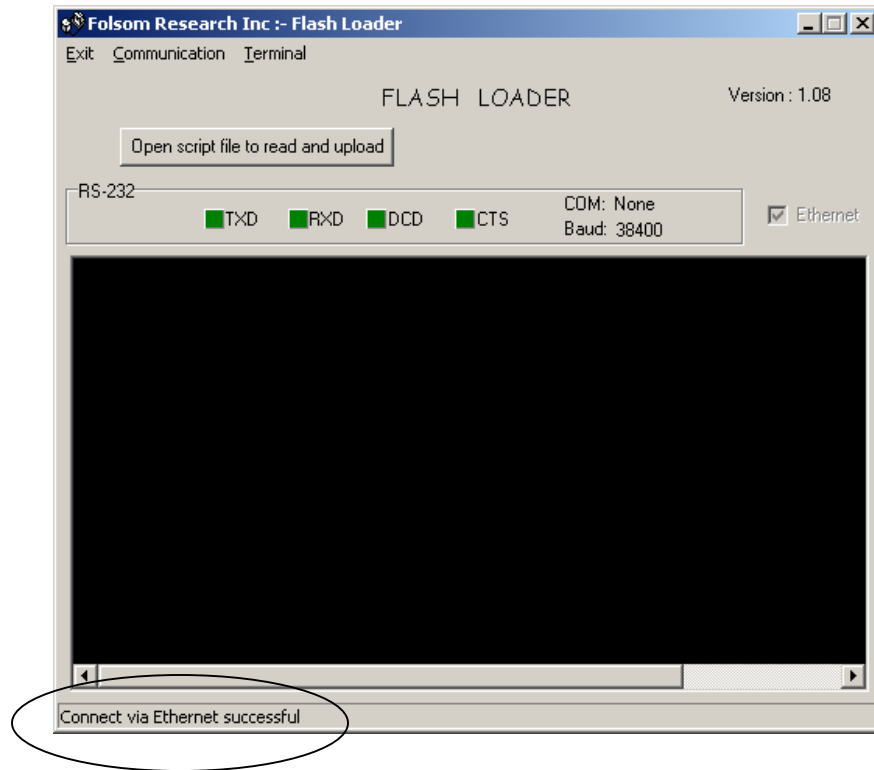
8. Type in the IP address of the Eagle (IP address: 192.168.0.10). The default Port number the Eagle is using is Port # 3000. When you are done, click on the Connect button.

9. If connection is successfully created, the status bar will display "Connect via Ethernet successful" as shown below:

10. If all this is good, use the button labeled "Open script file to read and upload". From the open dialog box, Select Upload_EAGLE_100_All.sld. The flash loader echo's commands while the flash is being loaded (takes about 3 minutes). If the loading is successful, the Upload Complete box appears.

11. Cycle Power again to get to the Main application.

12. Perform a Factory Reset from the front panel SYSTEM Reset menu by changing the default SOFT type to FACTORY and pressing the menu's soft reset button.

13. After the Factory Reset the installation is done. The new revision can be seen in the STATUS menu on the front panel of the Eagle unit.

Troubleshooting Ethernet Communication

Determine the IP address of the Eagle

1. The default IP address for the unit is 192.168.0.10. To verify that this is the correct address, open the terminal program and create a serial communication link to the Eagle, baud rate 115200, no parity, 8 data bits, 1 stop bit, no hardware/software flow control.

2. Turn on the Eagle and at the prompt sent the following commands:
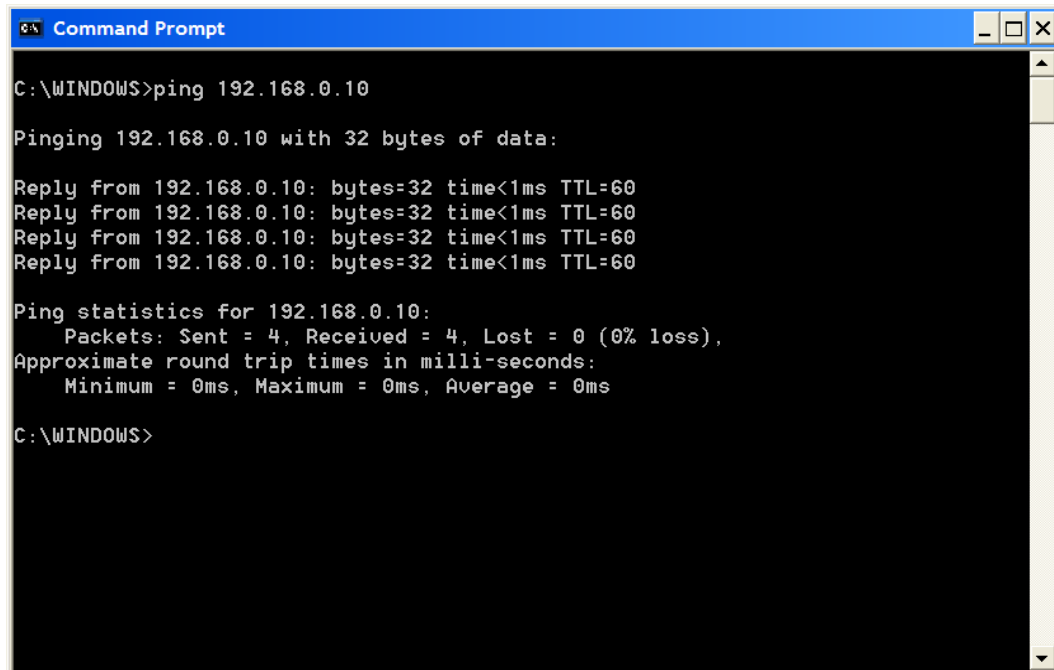
    IPINFO (or SET if in the loader)

3. Verify the following message is displayed.

    ```
    #ipinfo
    Server running
    IP Address          192.168.0.10
    Listen Port         3000
    Subnet Mask         255.255.255.0
    DHCP                CLIENT
    DHCP Srvr IP Addr   192.168.0.11
    DHCP Srvr IP Count  180
    Static IP Address   192.168.0.10
    ```

    (Note: The exact static IP Address may differ)

Configure the PC/laptop to communicate with the SP II

1. Connect the Ethernet cable from the PC/laptop to the hub that the Eagle is connected to and then turn on the PC/laptop.

2. Open a command prompt window on the PC. (Click on Start->Programs->Accessories->Command Prompt).

3. On the command prompt, attempt to ping the Eagle's IP address by typing the following: "ping 192.168.0.10" (use the units IP address if it is not the default) and press ENTER key.

4. If the computer is successfully able to communicate with the Eagle, the results should look like the following:
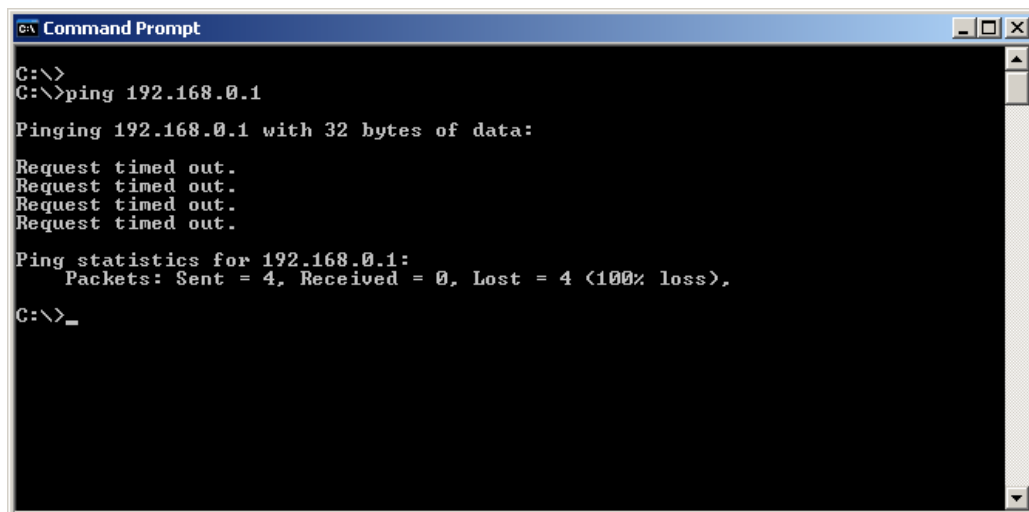
Note:
If you get "Request timed out" as shown below, the PC/laptop is unable to locate and communicate with the Eagle. If this is the case, check your network connections and settings as described above or contact your network administrator.

Find the current software revision

1. Open the terminal program and create a serial communication link to the unit.

2. At the Eagle command prompt, type the command "rev" and press enter.