XAP Connection Troubleshooting Guide

Description
This document provides solutions to the most common installation issues with the XAP products. The following topics will be addressed in this troubleshooting guide:

- PC Requirements
- Software Installation
- Serial Communication
- Flow Control
- Serial Echo
- Cables
- Baud Rate
- Using Hyperterminal

System Requirements
G-Ware requires the following minimum system configuration:

- Windows 95 version OS2 or later
- 200 MHz Pentium II or higher processor
- 64 MB RAM (128 MB RAM for Windows 2000, 256 MB RAM for Windows XP)
- 20 MB of free hard drive space
- 8 MB video card
- 1024x768 (16 bit) high-color monitor
- Internet Explorer version 4.0 or later
- RS-232 COM port
- CD-ROM drive

Software Installation
When installing the software, make sure you are either logged on as Administrator or have Administrator rights. If you are not logged on correctly, you may be able to install the software. However, the installation will not be written to the Windows registry and software will not operate properly. You will not be able to connect to XAP units and the program will generate errors. Once you have correctly installed G-Ware, you must reboot your computer.

Serial Communication
The XAP products use the RTS and CTS pins on the RS-232 port to regulate transmit and receive data. To avoid communication errors and to enable flow control, ClearOne strongly recommends that you only use a serial cable that has all nine pins connected when connecting to a PC.

Flow Control
The Flow Control setting must be enabled in G-Ware and on the unit. In the G-Ware Site Properties window, set Flow Control to **Hardware**. On the unit, access the RS-232 menu and set Flow Control to **On**.
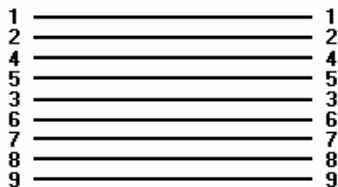
Serial Echo
Serial echo on the XAP unit needs to be on. This setting is found in G-Ware under the Unit Properties/Comm tab.

Cables

To connect your PC to the XAP unit, use an RS-232 serial cable. The cable must be a straight-thru, pin-to-pin configured cable with all 9 pins connected.

DB9 Female (PC)   DB9 Male (XAP unit)

Note: *Do not use a null modem cable. Some local electronic stores sell null modem cables with pin to pin cables. Make sure you purchase the correct cable.*

Baud Rate

The default baud rate for the XAP products is 38400 bps. When connecting to a unit, the baud rate in the G-Ware Site Properties window must match the baud rate selected in the RS-232 menu on the unit. A general rule for selecting a baud rate is the longer the cable, the lower the baud rate. If you are using a 3–4' cable (or shorter), you can run at 57600 bps. A cable longer than 4' requires a baud rate of 38400, 19200, or 9600 bps to run most efficiently.

Using HyperTerminal

If a connection cannot be made to the XAP unit with G-Ware, HyperTerminal can be used to attempt a connection. This will verify the COM port is available on the PC and the baud rate is correctly set.

1. To run HyperTerminal, click **Start**, point to **Programs**, point to **Accessories**, point to **Communications**, and then click **HyperTerminal**.

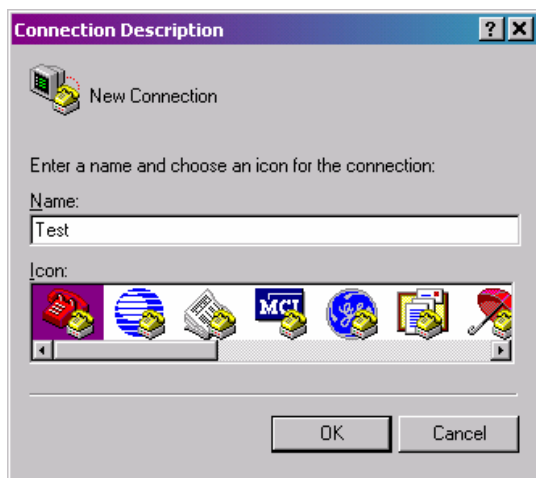2. Name the connection **Test**. Click **OK**.

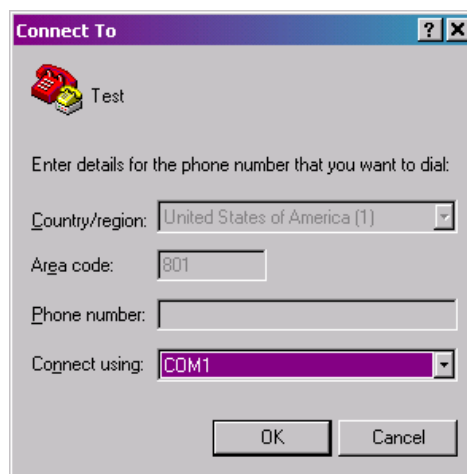
Figure 1. Establishing a Test connection   Figure 2. Selecting the COM port

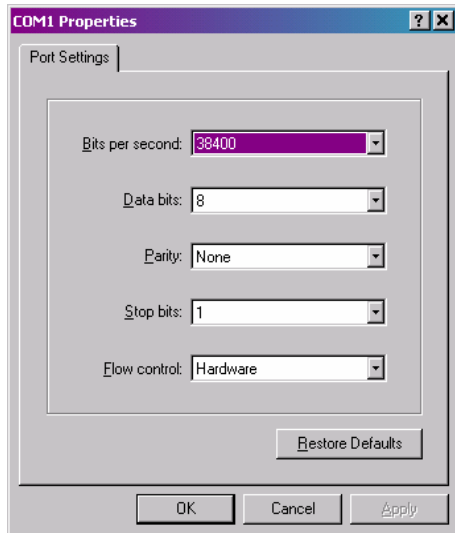3. Select the COM port and click **OK**.
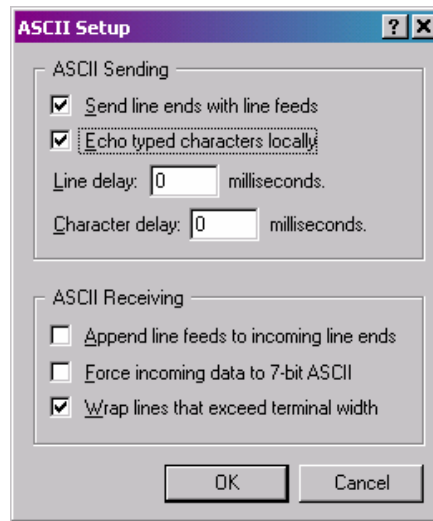
Figure 3. Selecting port settings

Figure 4. Configuring ASCII settings

4. Select the port settings and click **OK**.

5. You will see the main HyperTerminal window. From the **File** menu, choose **Properties**. Click the **Settings** tab and then **ASCII Setup**. Select **Send line ends with line feeds** and **Echo typed characters locally**. Click **OK**.

6. Press the **Enter** key to ensure the HyperTerminal is communicating with the XAP unit. If connected, you will see a **>** character. If a **>** character is not displayed, then the COM port is not communicating with the unit. If this is the case, check the COM port to be sure it is not being used by another software program. Also, ensure the baud rate and flow control are correctly set. Once you get a **>** character you have a connection and the response from the XAP unit can be tested.
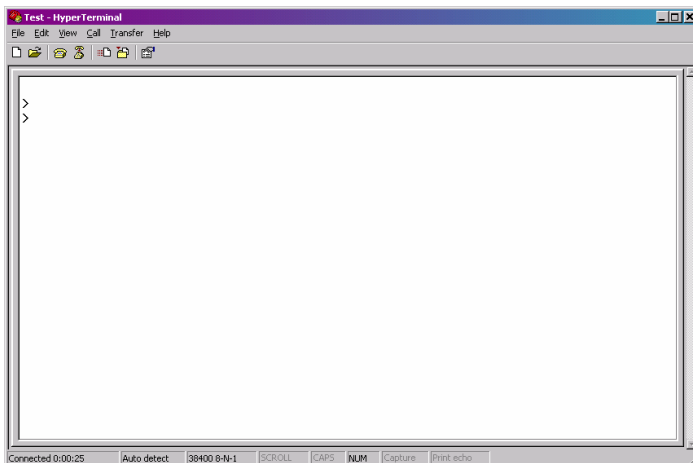

Figure 5. HyperTerminal main window

7. If you are installing a XAP 800 unit, type **#50 VER** (5 refers to the unit type and 0 is the unit ID). If the unit ID is 3, you would type **#53 VER**.
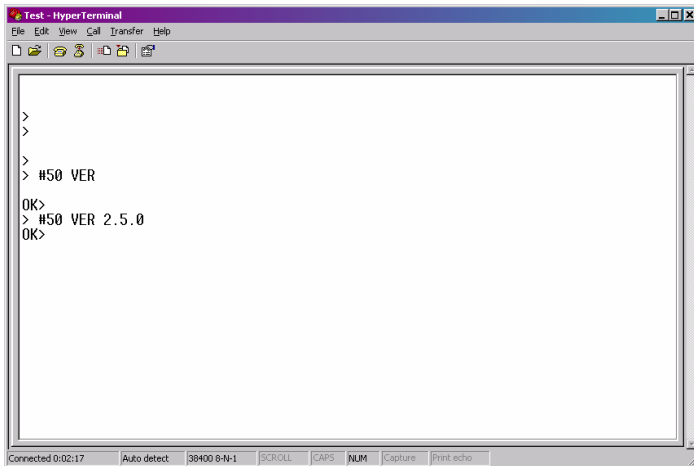
Figure 5. HyperTerminal main window

The XAP 800 will send back the version. In this case it is version 2.5.0. This tells us that the COM port is working and the unit is responding to the VER command.

8. If you do not get the **>** character or a response back from the XAP unit, there are five possible reasons:

    - Another program is using the COM port. This program needs to be closed for G-Ware and Hyperterminal to work.
    - The cable is a null modem cable or using only three pins on the cable. The cable must be a straight-thru cable using all nine pins.
    - The flow control setting is off. Flow control must be set to Hardware in G-Ware and On in the RS-232 menu on the unit.
    - Baud rate in G-Ware does not match the baud rate selected on the XAP unit.
    - Serial echo is not enabled. You can turn on the Serial Echo by sending a command to the XAP unit. Type **#.. SERECHO 1**.