Technical Note #606

VT-MODEM Replaces an Existing 1200, 2400, or 9600-Baud Modem

Abstract: A SIXNET Industrial Modem (VT-MODEM-1) can be used to replace an obsolete or slower modem. This tech note describes the settings necessary to configure the Industrial Modem to functionally replace an existing 1200, 2400, or 9600-baud modem.

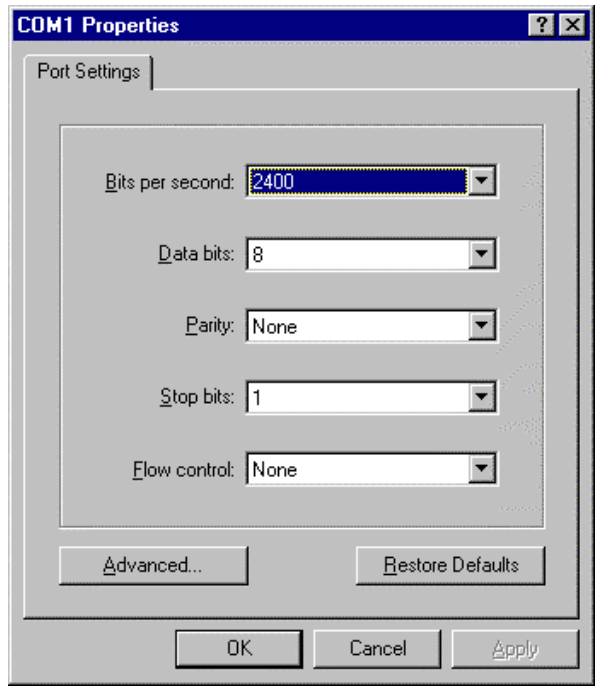
SIXNET's Industrial Modem has many advanced features, such as auto speed select and error checking modes that may be incompatible with your existing older systems. Most PLCs, for example, do not support auto baud rate switching, and in many situations, existing computer software contains fixed delay times for allowing the modem to connect, which may be incompatible with the new technology.

The VT-MODEM, in addition to supporting the new high-speed modes, also supports the older 1200-, 2400-, and 9600-baud modes found in the now obsolete modems that may need replacing in existing systems. By configuring the correct settings your Industrial Modem through Windows HyperTerminal, you can force the modem to communicate at any desired rate.

Windows HyperTerminal steps

Step 1: Connect your Industrial Modem to your computer using the VT-CABLE-MDM (*or an equivalent cable)*. Open Windows HyperTerminal. *(This program is included with Microsoft Windows 95. Refer to the VT-MODEM on-line manual for more details.)* Enter a name for your connection.

Step 2: Under *"Connect Using"* select **Direct to Com "X",** where "X" is the COM port the modem is connected to. Another window will appear. Enter the following settings, where **Bits per second** is the desired PLC baud rate, then press OK:



— Important —

Choose the baud rate that matches the PLC or other device that will be connected to the modem. Anytime a setting is saved using &W0 or &W1, the RS232 baud rate is memorized by the VT-Modem. The saved baud rate will be used for future communications with any attached device that does not initiate communications with the modem (such as most PLCs).

Step 3: You should be at a blank screen. Test that you are connected by typing **at <enter>**. The modem should respond with an **OK** if you are connected. Now enter these commands. (Press **<enter>** after each.)

Use these commands to force the modem baud rate to match your PLC's baud rate:

For 1200 baud -

atn0&w0	Forces the modem to communicate to modem at baud rate set by s37.
ats37=5&w0	Sets the modem to modem baud rate to 1200-baud.

For 2400 baud-

atn0&w0	Forces the modem to communicate to modem at baud rate set by s37.
ats37=6&w0	Sets the modem to modem baud rate to 2400-baud.

For 9600 baud-

atn0&w0	Forces the modem to communicate to modem at baud rate set by s37.
ats37=9&w0	Sets the modem to modem baud rate to 9600-baud.

The following commands disable special features provided by the modem. These commands may be necessary depending on which protocol you are using…

at&c0&w0	RLSD (DCD) on all the time (ignore carrier detect)
at&k0&w0	Disables all flow control
at%e0&w0	Disables line quality monitor
at\n1&w0	Async. Operation with no speed buffering or error correction
at+h0&w0	Disables Rockwell Protocol Interface
at%c0&w0	Disables data compression negotiation

Notes

- After configuring the VT-Modem, connect it to the PLC (or other device).
  Cycle power, then call the modem and verify that the PLC (or other device) responds.

- To dial a number in HyperTerminal, you can use the command: **atdt<number>**. When you have successfully connected to another modem, it will show the baud rate at which you are connected.
  Example: atdt15188778346

- To check whether your Industrial Modem is communicating, look at the “TD” and “RD” LED's on the modem. They will light up when communicating.

- If you are using a terminal program other than HyperTerminal, the steps may be different. However, the commands will remain the same.

- ***For additional help, refer to the VT-MODEM online manual, which can be found on the SIXNET CD or downloaded from our Web site at: www.sixnetio.com.***