

VT-MODEM Interfaces with the OMRON C200HX PLC using OMRON's CX Programmer Software

Abstract: The information in this document was created by SIXNET with help from OMRON Electronics, Inc. of Liverpool, NY, in response to similar requirements from numerous customers. It details the procedure for interfacing SIXNET Industrial Telephone Modems with an OMRON C200HX programmable logic controller and a remote PC running CX Programmer software. Upon successful completion of this setup, the remote user will be able to program a C200HX PLC via a telephone modem connection.

Terms: Local modem: modem connected to PC running CX Programmer
Remote modem: modem connected to PLC

Hardware and Software Used:

- Desktop PC running Microsoft's Windows 95, 98, NT or 2000
- (2) SIXNET Industrial Modems (Part Number: VT-MODEM-1US)
- SIXNET VT-MODEM Setup Wizard v1.15
- Serial cable (Part Number: VT-CABLE-MDM) (Included with VT-MODEM-1US)
- OMRON C200HX-CPU64-E programmable logic controller
- PC to Omron PLC cable*
- Modem to Omron PLC cable**
- OMRON CX Programmer v1.1 Software
- Microsoft's "Standard 28800 bps Modem" driver (installed to Windows computer)
- Analog phone line connections at both ends (digital lines may not work). (It is recommended that if possible the analog line should not be routed through a PBX system).

Modem (SIXNET VT-MODEM-1) Setup Procedure

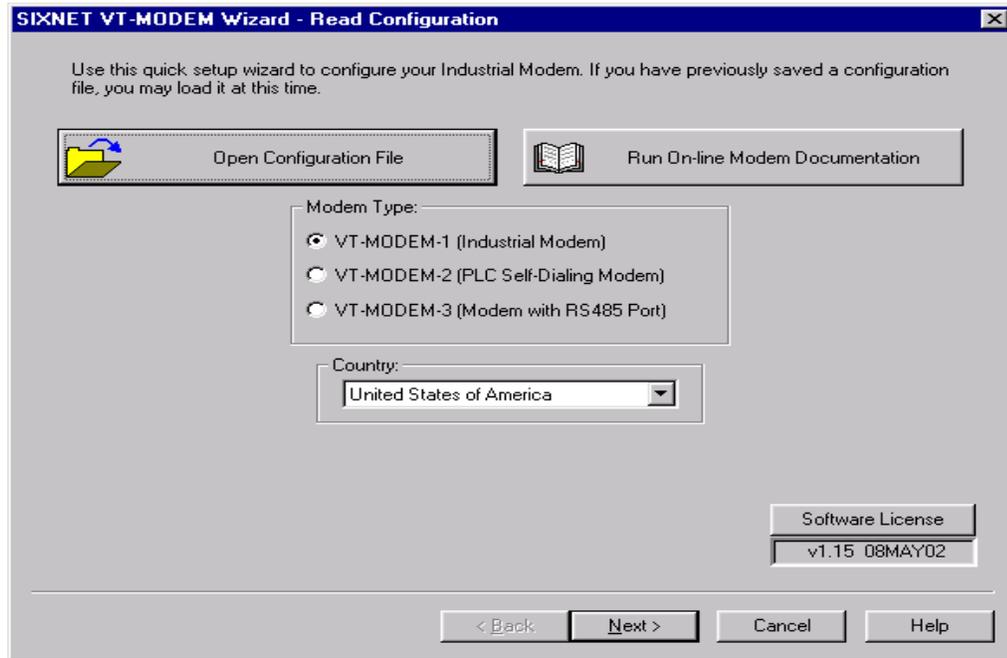
Use SIXNET's VT-MODEM Setup Wizard to configure both modems:

Note: *For information on how to use Modem Setup Wizard, please consult the SIXNET VT-MODEM online help guide located on the SIXNET CD in the Product Catalog.*

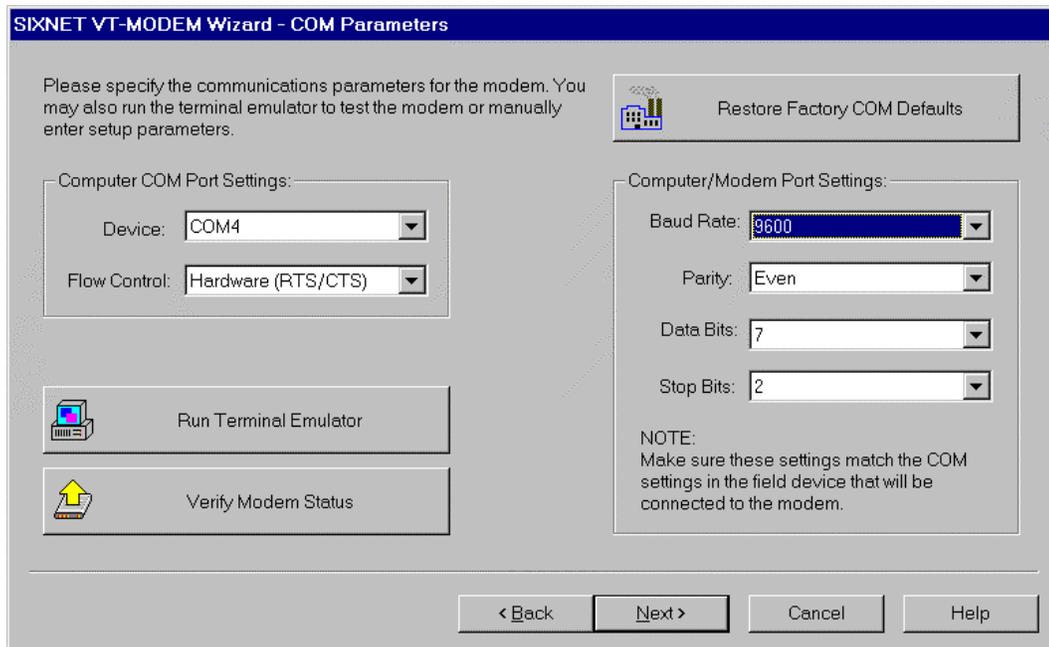
Modems are configured by connecting the straight through cable (VT-CABLE-MDM), which comes as part of the Industrial Modem package, to the serial port on the modem and the serial port of the PC (i.e. COM4 in the following example). Screen shots shown on pages two and three of this document detail configuration of both remote and local modems – the same configuration file was used with both modems. Before writing settings to the remote modem, the configuration was saved to hard drive

(SCREEN SHOT 4) with file name “omron_c200hx_vtmdm1.6ms” (available on CD-ROM or at www.industrialmodem.com) and reused to configure the local modem (SCREEN SHOT 1):

SCREEN SHOT 1



SCREEN SHOT 2



SCREEN SHOT 3

SIXNET VT-MODEM Wizard - Modem Parameters

Select the proper modem parameters for your application.

 Restore Factory Modem Defaults

Basic Modem Parameters:

Phone Number 1:

Ignore DTR (assume ON) Ignore Carrier Detect (force ON)

Enable Auto-Answer on Rings

Advanced Modem Parameters:

Disable Command Echo Disable Error Correction

Flow Control: Disable Data Compression

Modem to Modem Speed:

Auto-detect Speed to: Fixed Speed:

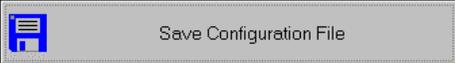
User-Defined "AT" String:

< Back Next > Cancel Help

SCREEN SHOT 4

SIXNET VT-MODEM Wizard - Write Configuration

At this time you may write your configuration into the modem and/or a file for later use.

 Save Configuration File  Write modem and Self-Dial Setup to the Modem

 Save Configuration File As  Write Modem Setup to the Modem

 Run Terminal Emulator  Write Self-Dial Setup to the Modem

< Back Finish Cancel Help

After successfully writing settings to the modems, de-power modems and connect to PC and PLC. Install modem driver to Windows using Microsoft's "Standard 28800 bps Modem" driver prior to running CX Programmer software – the VT-MODEM works with this driver.

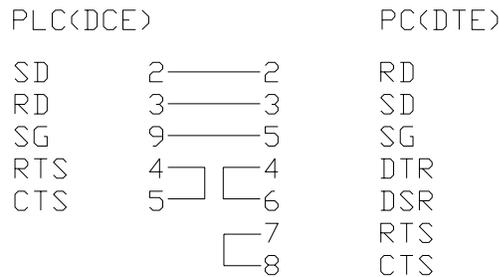
OMRON C200HX PLC Hardware Setup

Using the built-in RS232 port:

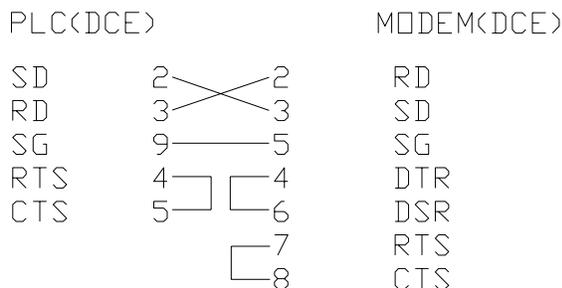
1. Open the cover on front of the PLC and turn DIP switch 5 ON.
2. Connect the modem-to-PLC cable* to the built-in RS232 port.
3. Plug the telephone line into the phone jack on remote modem.
4. The PLC baud rate is preset for 9600, with the modem serial port set to same rate.
5. Setup now complete: ready to use CX Programmer to dial into the VT-MODEM.

PC TO PLC CABLE WIRING DIAGRAM*

OMRON CABLE P/N: C200HS-CN220-EU, 9-PIN TO 9-PIN



MODEM TO PLC CABLE WIRING DIAGRAM**



Run CX Programmer software

Create a new project: select “C200HX” for PLC, “SYSMAC WAY” for network type. Click settings button in network type, click modem tab, select “Standard 28800 bps Modem.” Verify hardware/software setup: click “PLC” on menu line, select “go on-line.” Local modem should dial, create connection (CD LEDs on both modems go on), and RD/TD LEDs on both modems should start flashing continuously. You are now ready to program the Omron C200HX.

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