



## VT-MODEM Interfaces to Allen-Bradley PLC

**Abstract:** This technical note provides instructional tips for interfacing the SIXNET Industrial Telephone Modem with the Allen-Bradley AI Configuration Software and Allen-Bradley 500 Processors.

**Rock Interface Systems Inc., a distributor and System Integrator for SIXNET, has created the following tutorial for interfacing the SIXNET Industrial Telephone Modem with Allen-Bradley AI Software and AB 500 Processors. This modem interface provides long distance communication between the operator and the PLC. Diagnostics and troubleshooting can now be done from hundreds of miles away. This provides a great advantage to operators because problems can now be solved and corrected without having to travel to the PLC itself.**

### Settings in the A-B AI Software

*Run the Allen-Bradley AI Software Package. The Main Menu Should Appear. To complete configuration, perform the following steps in order.*

### PLC-500 Main Menu

**Step 1:** F9) Configure Program Parameters

**Step 2:** F1) Communication Hardware

#### ***Configure Online Communications Hardware***

F1) Computer/Terminal Address: 10 (Something Other than PLC Node)

F2) Interface Hardware Type: 5/03,5/04 CH0, 1770-KF3, 1747-KE

F3) Online wait for reply timeout: 15 Seconds

F4) Communications Port: ComX (Com port of PC modem)

F5) Baud Rate: 9600

F6) Parity: None

F7) Error Checking: CRC (This should be BCC if 5/04)

F8) Protocol: Full Duplex

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- F9) Dial Modem: Yes
  - CTL-F1) Modem Dial String: ATDT- (Phone #)
  - CTL-F2) Network Diagnostics (Dials Number & Connects to Remote PLC)
  - CTL-F3) Run Terminal Utility Program

*When modem connects, use escape key to back-out of these windows.  
From the Main PLC-500 Menu: F3 - Go Online*

### **PLC-500 Main Menu**

**Step 3:** F2) Offline Programming/Doc

**Step 4:** F8) Display

**Step 5:** F7) ChancFg

#### ***Channel 0***

Current Communication Mode:	System
System Mode Driver:	DF1 Full-Duplex
User Mode Driver:	Generic ASCII
Write Protect:	Disabled
Mode Changes:	Disabled
Mode Attention Character:	\0x1b
System Mode Character:	S
User Mode Character:	U
Edit Resource/File Timeout:	60
Passthru Link ID:	0

#### ***Channel 1***

System Mode Driver:	DH-485 Master
Write Protect:	Disabled
Edit Resource/File Timeout:	60
Passthru Line ID:	0

**Step 6:** F4) Ch0Sys

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### ***Channel 0 Configuration***

Communication Driver:	DF1 Full-Duplex
Baud Rate:	9600
Stop Bits:	1
Duplicate Detect:	Disabled
ACK Timeout:	150
Source ID:	9
Control Line:	Full Duplex Modem
Parity:	None
Error Detect:	CRC (BCC if 5/04)
NAK Retries:	2
ENQ Retries	2
Embedded Responses:	Auto-Detect

### **SIXNET Modem Settings**

Use Windows HyperTerminal\* to communicate to the modem.

*\*For information on how to use HyperTerminal, please consult the SIXNET VT-MODEM online help guide, located on the SIXNET CD in the Product Catalog.*

Settings can be changed by connecting the straight through cable, which comes as part of the Industrial Modem package (VT-CABLE-MDM).

To check communication, type **AT <Enter>**. *OK* should appear.

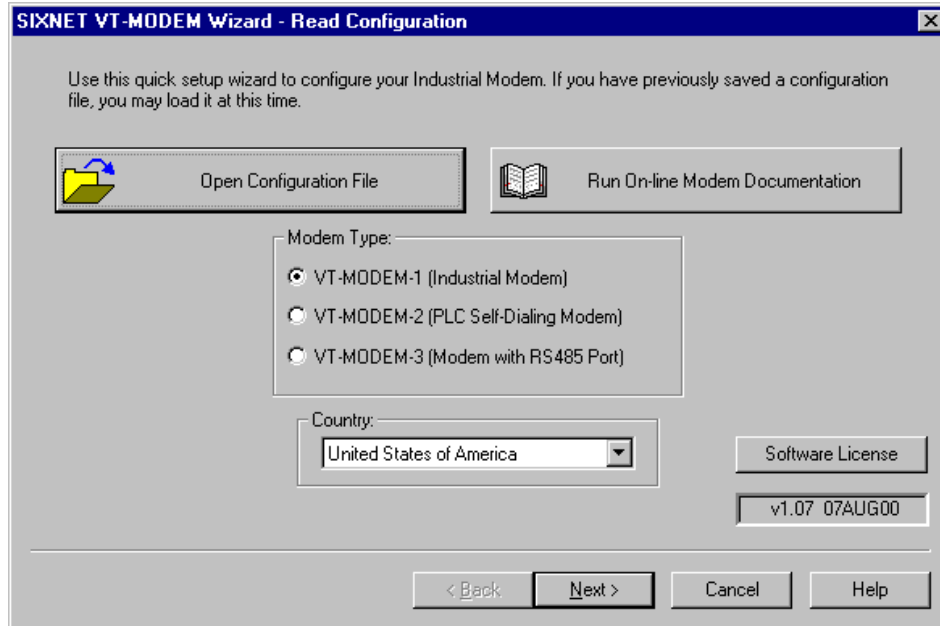
*To Set up Modem:*

Type In: AT&F	- This sets the modem to factory defaults
Type In: AT&S0=1	- This sets the modem to auto-answer
Type In: AT&S46=136	- This turns off Data Compression
Type In: AT&W0&W1	- This saves changes to both profiles.
Type In: AT&V	- Use this to verify changes.

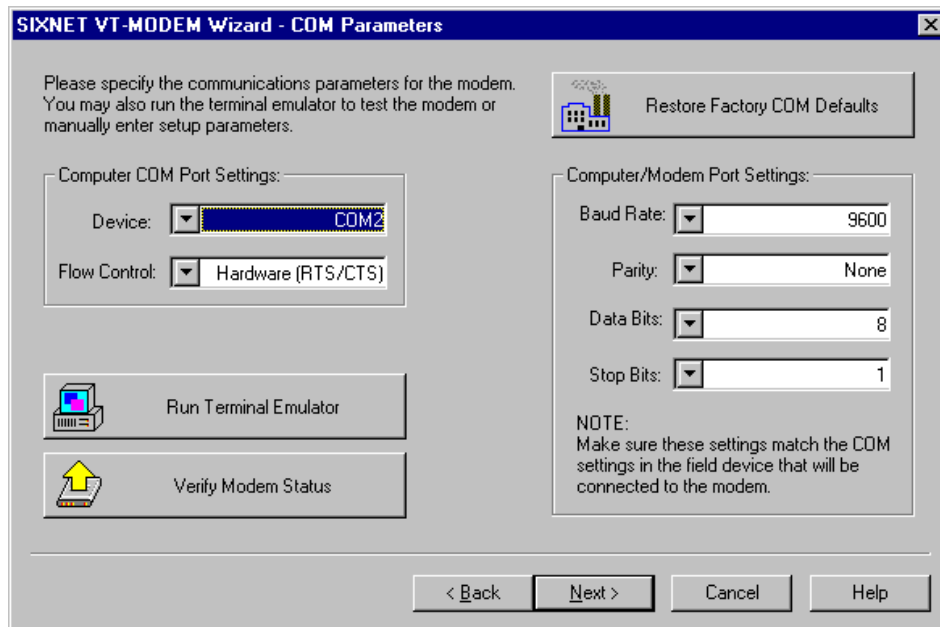
### **Loading Pre-Configured Settings into the VT-MODEM-1:**

The Modem settings above can also be loaded using the VT-MODEM Setup Wizard included with the VT-MODEM-#. Use the configuration file (AB500.6ms) located on the latest SIXNET CD, from your local SIXNET representative and the modem section in [www.Get2Support.com](http://www.Get2Support.com). Open the VT-MODEM Setup Wizard. In the *Load Configuration* window click on the "Open Configuration File" button, and open the AB500.6ms file (See Screen Shot 1). Select the

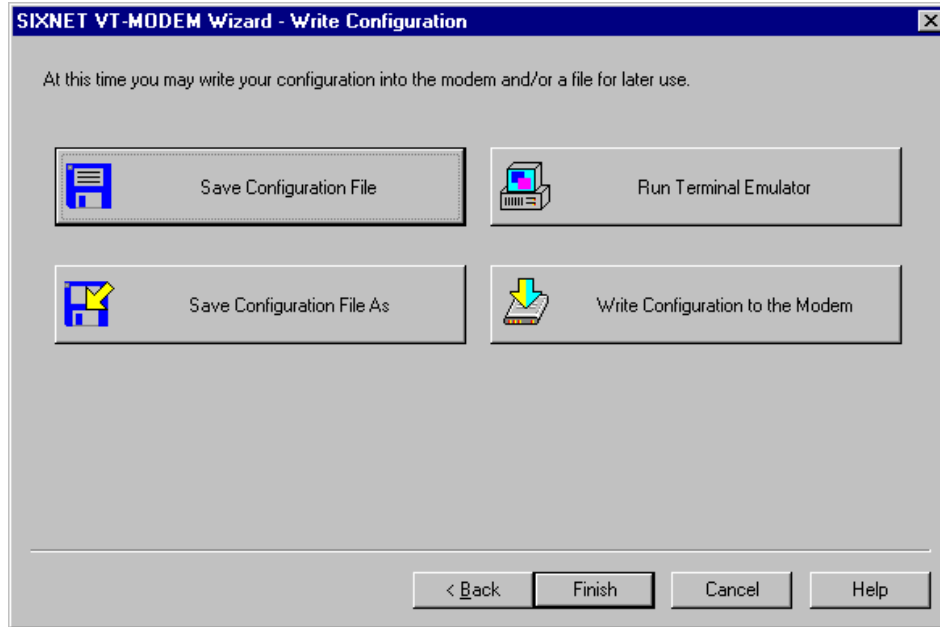
communications port the SIXNET VT-MODEM-1 is connected to (COM 2 in this case) in the *COM Parameters* window (See Screen Shot 2). Load the configuration into the modem using the “Write Configuration to the Modem” button in the *Write Configuration Window* (See Screen Shot 3).



Screen Shot 1



Screen Shot 2



**Screen Shot 3**

## **Cable Wiring**

*Connect the RS2-32 serial port of the A-B 5/03/04 with the modem using the straight through cable, supplied with the VT-MODEM-1, part number VT-CABLE-MDM.*

