

T E C H N I C A L B U L L E T I N

Doc No.: TN30-06
Date: January 2003
Version: 1.0
Subject: Remote communications to Trio Motion Coordinators

Introduction

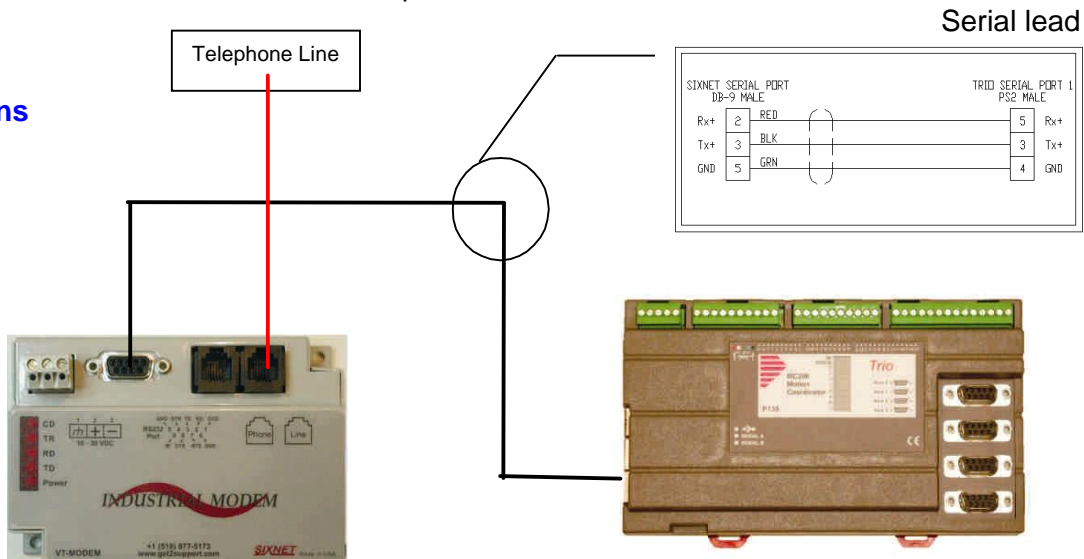
WARNING: Commanding a Trio Motion Controller from a remote location is potentially dangerous. Experienced engineers should only carry out connecting in this manner and limit the purpose to non-intrusive diagnostics and monitoring. Trio Motion Technology accepts no responsibility for loss or damage caused by connecting in this manner. No technical support or otherwise will be given to this type of connection.

This technical bulletin note describes the procedure required to set up a SIXNET VT Industrial Modem to a Trio motion controller and connect with Motion Perfect 2 software. The following describes the application of the SIXNET dial-up modems to establish remote communications with a Trio *Motion* Coordinator™. When a connection is established it is possible to remotely monitor the *Motion* Coordinator™ to allow simple diagnostics and of a commissioned system.

Supplies

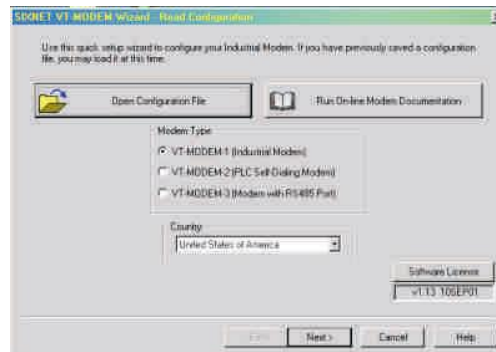
- 1 - Trio MC2xx series controller
- 2 - Sixnet VT-Modem-1 Industrial Modem
- 1 - Sixnet Modem to Trio Motion Controller Serial Cable
- 1 - Sixnet Modem to PC standard serial cable (9pin female to 9 pin male)
- 2 - Standard telephone cords (RJ11)
- 1 - SIXNET software tools – Modem Setup Wizard v 1.13 or later

Connections



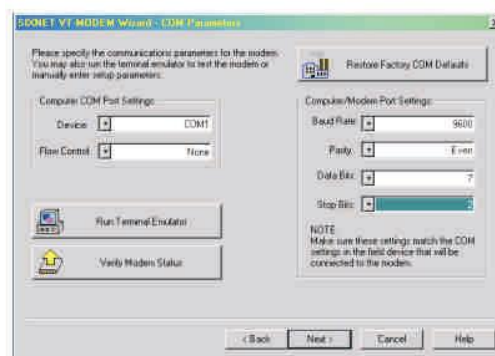
SIXNET Modem Setup

Connect the SIXNET VT-Modem-1 to your PC's com port via the supplied 9 pin to 9 pin serial cable and start the MODEM Setup Wizard.



On the COM parameters screen

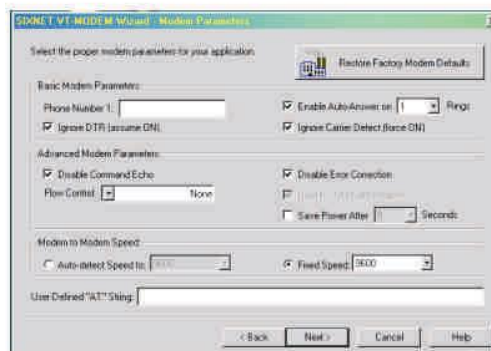
1. On the COM screen select Device – COM1
- Flow Control – None
- Baud Rate – 9600
- Parity – Even
- Data Bits - 7
- Stop Bit – 2



Click Next.

On the Modem Parameters Screen

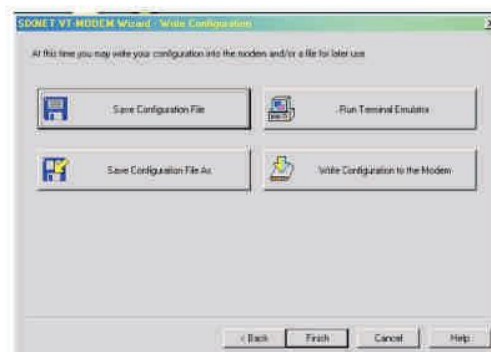
1. Phone Number 1 – Blank
2. Ignore DTR – Checked
3. Enable auto answer on 1 ring
4. Ignore carrier detect (Force On) - Checked
5. Disable Command Echo – Checked
6. Disable Error correction – Checked
7. Disable Data Compression – Checked
8. Flow Control – None
9. Fixed speed – Checked at 9600
10. User Defined AT string – leave blank.



On the write Configuration Screen

1. Save the Configuration file.
2. Write Configuration File to Modem
3. Run Terminal Emulator

At the terminal emulator enter the following AT Commands.



AT&C0 'Forces carrier detect High
AT&D0 'Forces DTR high
ATQ1 'Disables sending results code
ATE0 'Disables command Echo
AT&W0 'Stores current configuration to channel 0

The Industrial modem is now ready for connection as shown above on the first page.

Establishing a connection

Ensure that the Motion controller and the Modem is powered and connected to the telephone line.

Although not essential, all testing was done with an identical SIXNET modem connected to the PC. This modem was configured in exactly the same way as the first. A cheaper (non-industrial) external modem could be used in its place however is important that the modem, amongst other things, be put in pass through mode and the appropriate AT commands for that modem be issued.

With the PC side modem powered and connected to COM1 of the PC, start Motion Perfect (version 2.1.0.2 or later). Motion perfect will attempt to establish a connection. The connection will fail as we have not dialed and connected the modems yet. Click ok and a terminal screen will appear saying COM 1. Ensure that under the communication menu that the default com settings are selected – 9600,7,2,EVEN.

In the terminal screen type:

ATDT <telephone number>

Since the Command Echo is disabled you will NOT see the letters being typed on the screen. Press ENTER and the modem will now dial the number you typed. Once a connection has been established, type some characters at the terminal. You should see the TD light on the SIXNET modem flash and the corresponding RD light on the other modem flash. Cycle the power on JUST the motion controller whilst leaving the modem still powered. You should see the start up controller messages being displayed on the terminal screen and a >> command prompt. Hit <Enter> a few times and verify that a command prompt is being returned. You can now connect to the controller fully by going to the menu Controller - > Connect.

Note that the modems will remain connected even if you disconnect from the controller and exit Motion Perfect. To fully disconnect, remove power from the Modem.

Troubleshooting.

Ensure that when characters are typed at the terminal the PC side Modem TD light flashes. Also verify the when the controller power is cycled, the controller side modem TD light flashes. Also when the TD light flashes on the PC side modem the RD light flashes on the Controller modem and vice versa.

Verify two-way communication using Windows HyperTerminal connected to each modem and check characters are being sent both ways.