

### ActiveX Controls interface to SIXNET I/O

**Abstract:** This document explains the procedure used to verify that the ActiveX Controls provided by Automated Solutions, Inc. work with SIXNET Gateways, Controllers, I/O Modules and RTUs.

**Automated Solutions ActiveX Controls allow users to develop runtime-free, state-of-the-art HMI, SCADA, Data Acquisition and Operator Interface applications using Visual Basic, Visual C++, Delphi, MS Office apps, or any ActiveX/VBA compliant container application. SIXNET has verified that their Modbus/TCP and Modbus RTU/ASCII Master ActiveX Controls are compatible with SIXNET Gateways, Controllers, I/O modules and RTUs.**

#### Software Used:

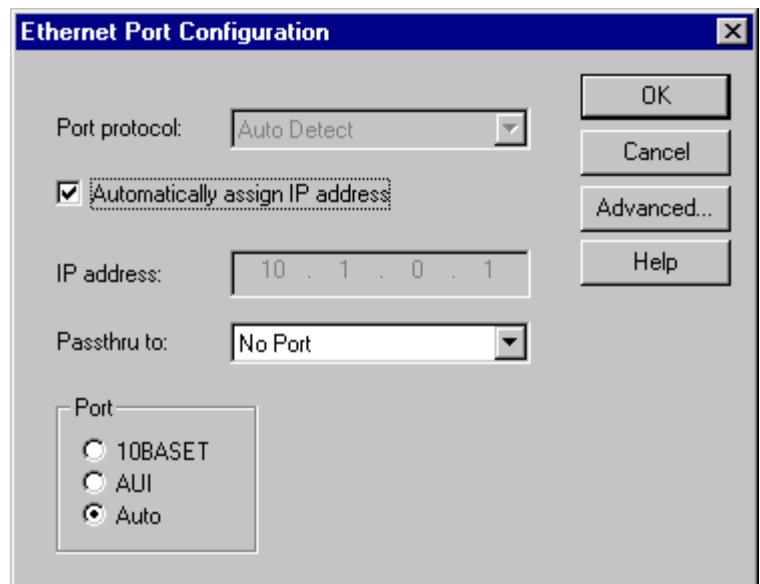
- Windows NT 4.0 (Service Pack 6)
- ASMBTCP Quick Start Application (version 8/10/01)
- ASMBSERIAL Quick Start Application (version 1/23/02)
- MiniHMI for ASMBTCP ActiveX Development Kit (version 8/10/01)
- MiniHMI for ASMBSERIAL ActiveX Development Kit (version 1/23/02)
- SIXNET I/O Tool Kit (version 1.20)

#### Hardware Used:

- (1) SIXTRAK Ethernet Gateway (ET-GT-ETH-24P) with various SIXTRAK I/O modules
- (1) ST-CABLE-PF RS232 configuration cable (null modem type)
- (1) Ethernet test cable (cross-wired for direct connection between Gateway and PC)

#### Ethernet Gateway Setup Procedure:

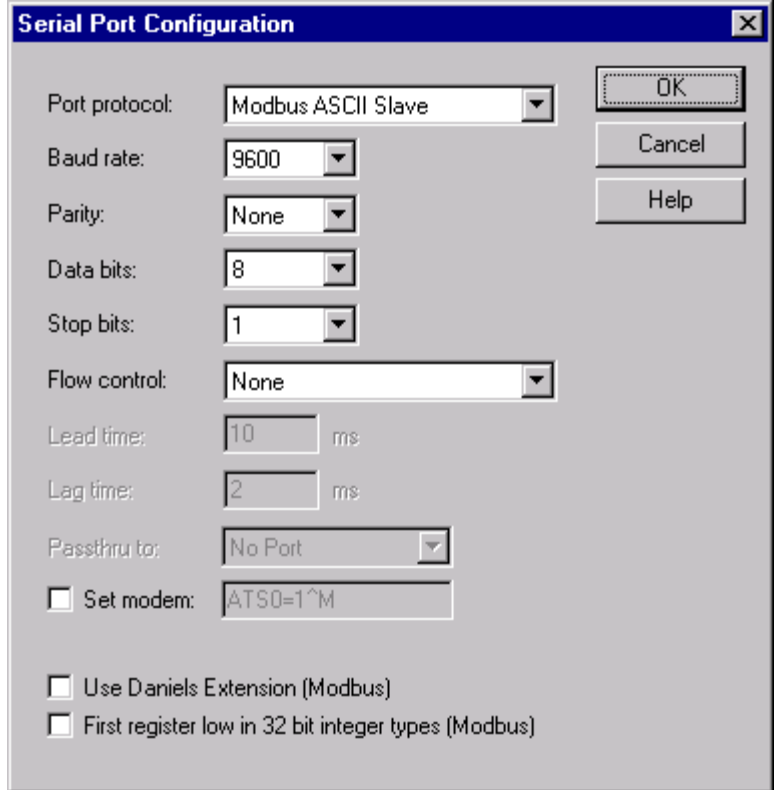
The Ethernet Gateway and SIXTRAK I/O modules were first configured using the SIXNET I/O Tool Kit. Refer to the on-line help for details on how to use this utility. The screen to the right shows how the Ethernet port was configured using the default IP address of 10.1.0.1. Refer to the on-line help on how to select an appropriate IP address for your network. The configuration was loaded via the RS232 cable connected between the PC's com port and the Gateway's Plant Floor port. At this point (after the IP address is set) then all further configuration and testing can be done via the Ethernet connection.



The Ethernet connection with the Gateway was then verified by selecting Ethernet as the Device and then Verify from the Operations menu. The resulting message should be “Configuration Matches”.

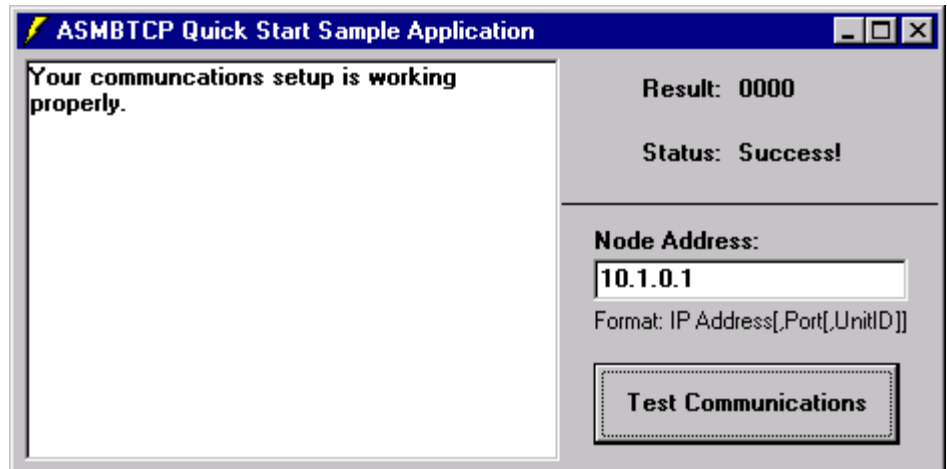
The Plant Floor port on the Gateway was then set to Modbus ASCII Slave, 9600, 8, N, 1, as shown in the SIXNET I/O Tool Kit configuration screen to the right. This configuration was then loaded (Operations menu – Load option) to the Gateway via the Ethernet connection.

The Gateway is now configured and ready to be polled by the ActiveX Controls.



### ASMBTCP Quick Start Application:

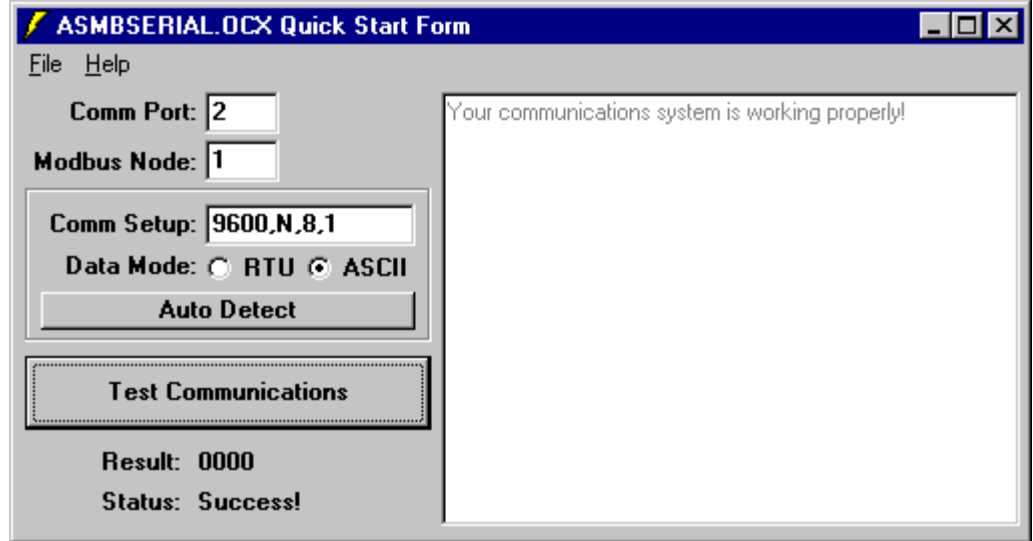
This test program supplied by Automated Solutions was run using the IP address of 10.1.0.1 to match what the Gateway is configured for. The result “Success!” confirmed that the connection was good.



## ASMBSERIAL

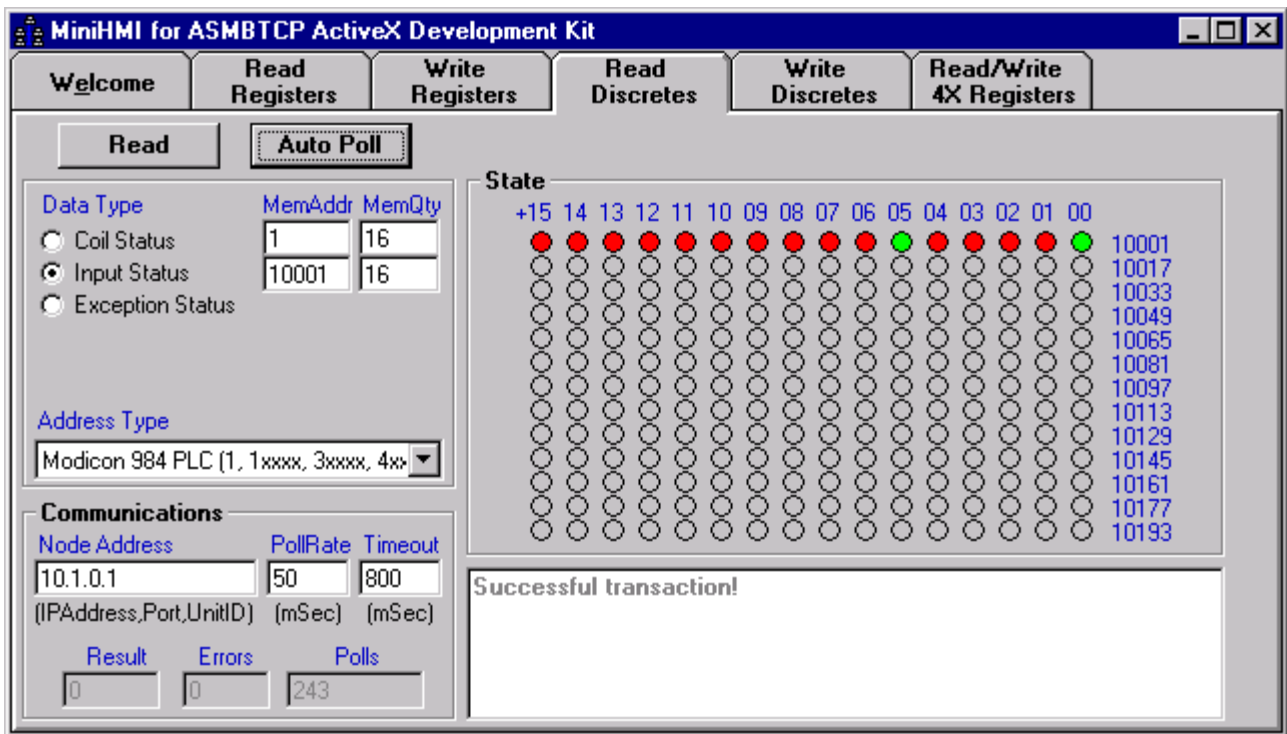
### Quick Start Application:

This test program supplied by Automated Solutions was run using the shown settings to match what the Gateway's RS232 port is configured for. The result "Success!" confirmed that the connection was good.



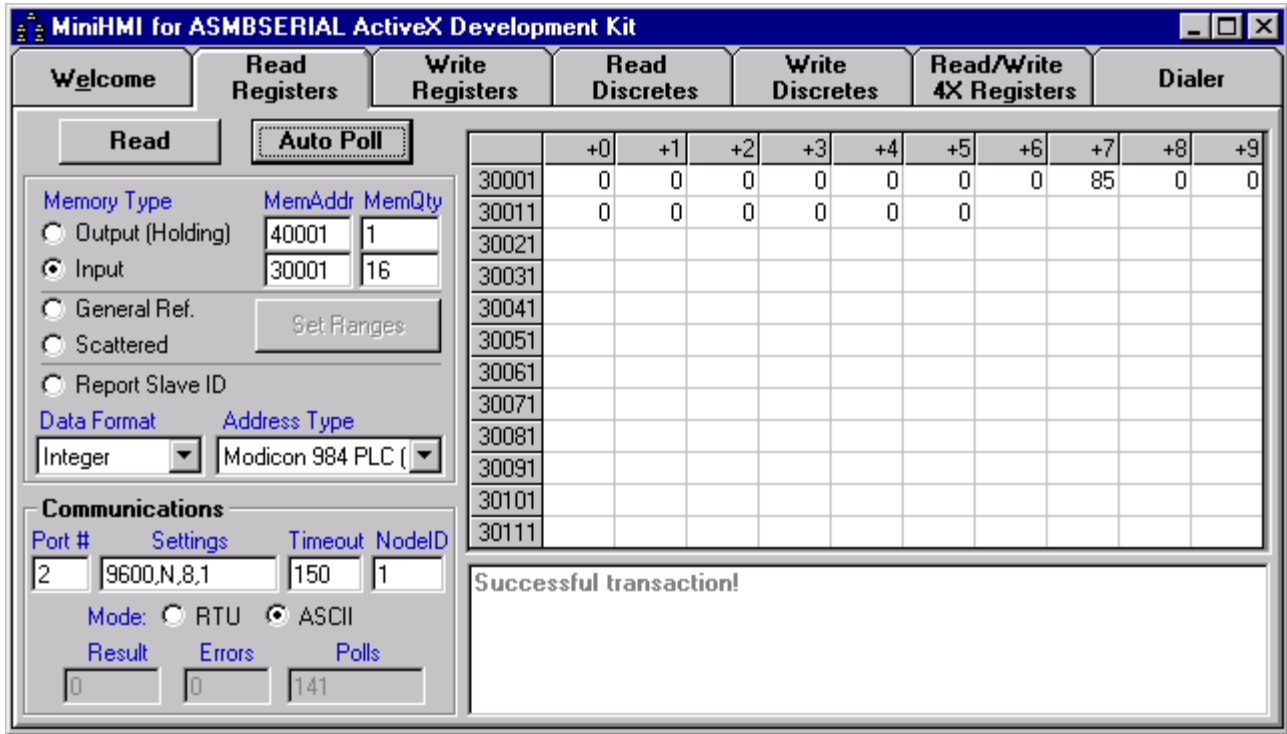
### MiniHMI for ASMBTCP ActiveX:

This MiniHMI sample program supplied by Automated Solutions was run using the IP address of 10.1.0.1 to match what the Gateway is configured for. SIXNET's addressing scheme is compatible with the Modicon 984 PLC so that was chosen for the Address Type. The program was successfully able to read and write all I/O types to the Gateway via the Ethernet connection. See the example below.



**MiniHMI for ASMBSERIAL ActiveX:**

This MiniHMI sample program supplied by Automated Solutions was run using the com port settings shown below to match what the Gateway is configured for. SIXNET’s addressing scheme is compatible with the Modicon 984 PLC so that was chosen for the Address Type. The program was successfully able to read and write all I/O types to the Gateway via the serial connection. See the example below.



**Additional Tests Performed:**

The SIXTRAK Gateway’s RS232 port, and the MiniHMI ASMBSERIAL and Quick Test programs were all configured for Modbus RTU. The programs were successfully able to read and write all I/O types to the Gateways using Modbus RTU.

The MiniHMI ASMBTCP and Quick Test programs were also successful in communicating to SIXNET’s EtherTRAK Ethernet I/O modules.

**Conclusion:**

**The Modbus/TCP and Modbus RTU/ASCII Master ActiveX Controls from Automated Solutions, Inc. are fully compatible with SIXNET Gateways, Controllers, I/O Modules and RTUs.**

**Note: SIXNET strictly follows the Modicon standards for Modbus ASCII, Modbus RTU, and Modbus/TCP, for the commands that are supported. SIXNET devices support only commands 1, 2, 3, 4, 5, 6, 15, and 16. SIXNET Ethernet devices also support Modbus/UDP in addition to Modbus/TCP.**