

# CNOE

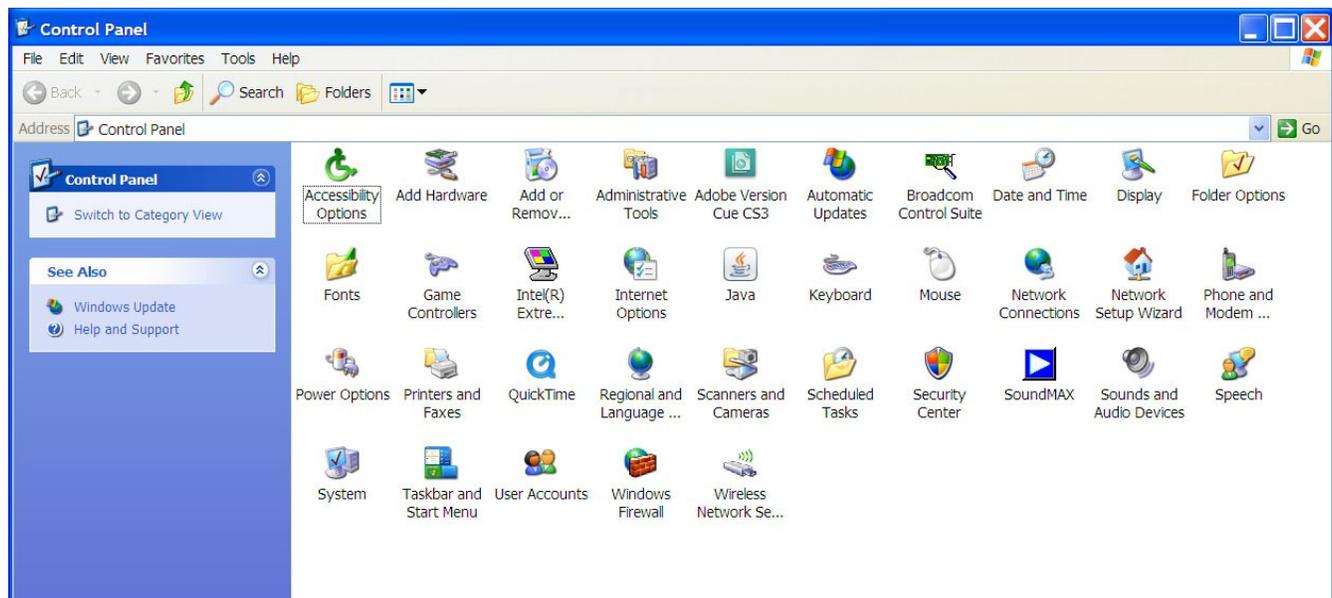
## *IP Address Configuration*

## Introduction

The CNOE comes with a default IP address of 10.10.10.10. A PC on the network running Windows ME/2000/XP can very easily add an additional IP address to an existing adapter, and configure a new IP address for the CNOE using RPCSW32. RPCSW32 should be installed from the CD or downloaded from [www.niobrara.com](http://www.niobrara.com).

### ***Set Windows IP to the CNOE's Default IP Subnet***

In the “Control Panel” of Windows there is an icon for “Network Connections” (See Figure 1). Double-click the “Network Connections” icon.



*Figure 1: Windows XP Control Panel.*

The “Network Connections” window will show various network connections and adapters for the computer being used. There may be more than one adapter depending on the system. Right-click the icon which represents the adapter connecting to the CNOE, then select “Properties” (See Figure 2).

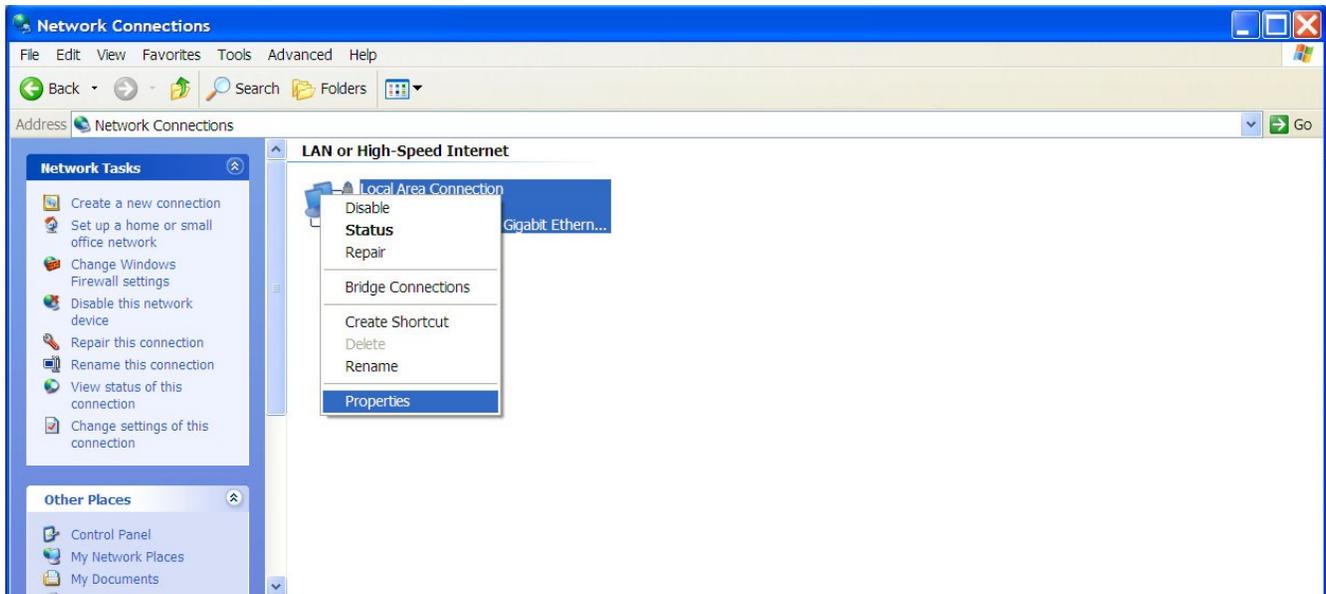
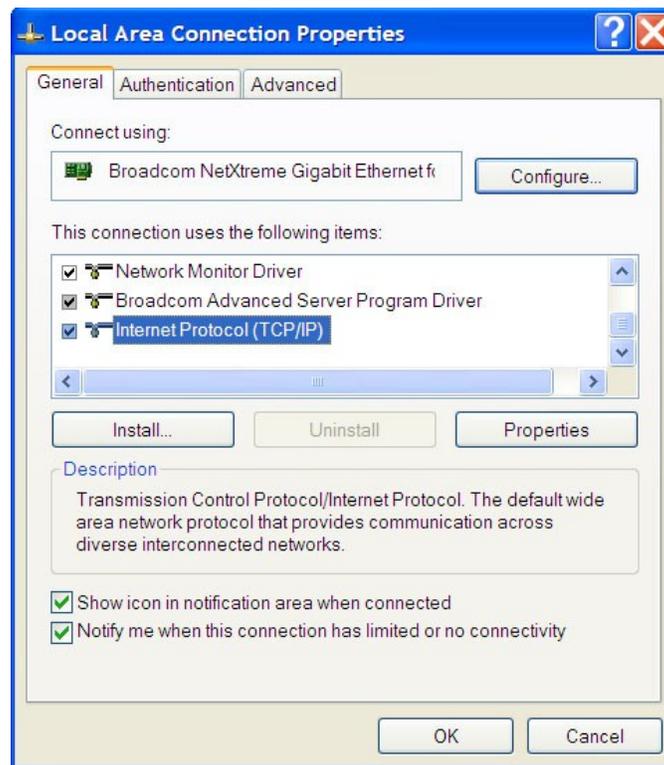


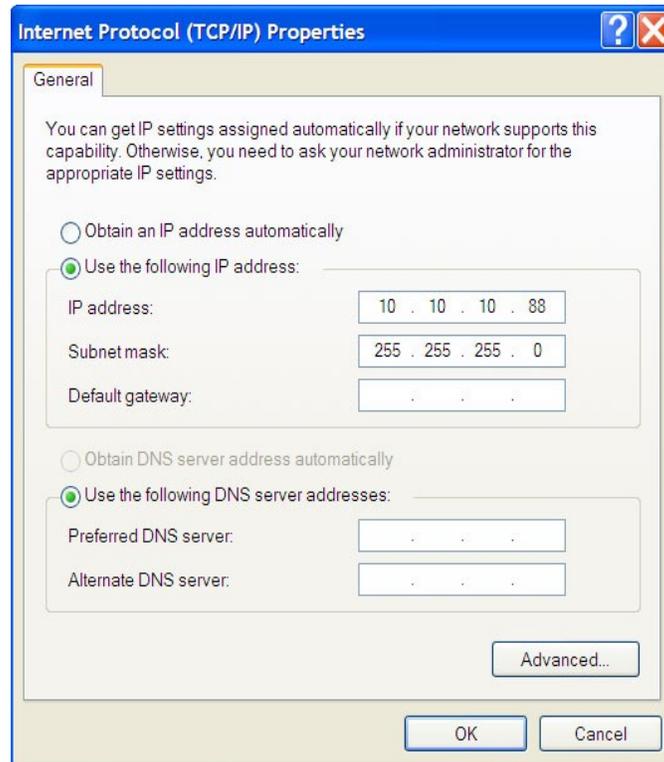
Figure 2: Windows XP Network Connections

In the “Local Area Connection Properties” window find “Internet Protocol (TCP/IP)”. Select “Internet Protocol (TCP/IP)” and click the “Properties” button (See Figure 3).



*Figure 3: Windows XP Local Area Connection Properties.*

In the “Internet Protocol (TCP/IP) Properties” window click the “Use the following IP address” (See Figure 4). Type in an “IP address” of 10.10.10.XX. XX must be some number between 0 and 255, and must not be 10. 88 is used in the case below. “Subnet mask” should be 255.255.255.0. It is not necessary to change the “Default gateway” or the “DNS server” addresses. Click Ok. Now the PC is set to the same subnet as the CNOE.



*Figure 4: Windows XP Internet Protocol (TCP/IP) Properties.*

## Setup CNOE using RPCSW32.exe

Double-click “RPCSW32” icon to start the RPC software (See Figure 5).



Figure 5: RPCSW32 Icon.

The RPC software is console program, so it will open in a terminal window (See Figure 6). The first time the software is started, there will be an error which reads “Can't locate setup file.” This happens because there is no setup file yet. Use the [F10] key to clear the error.

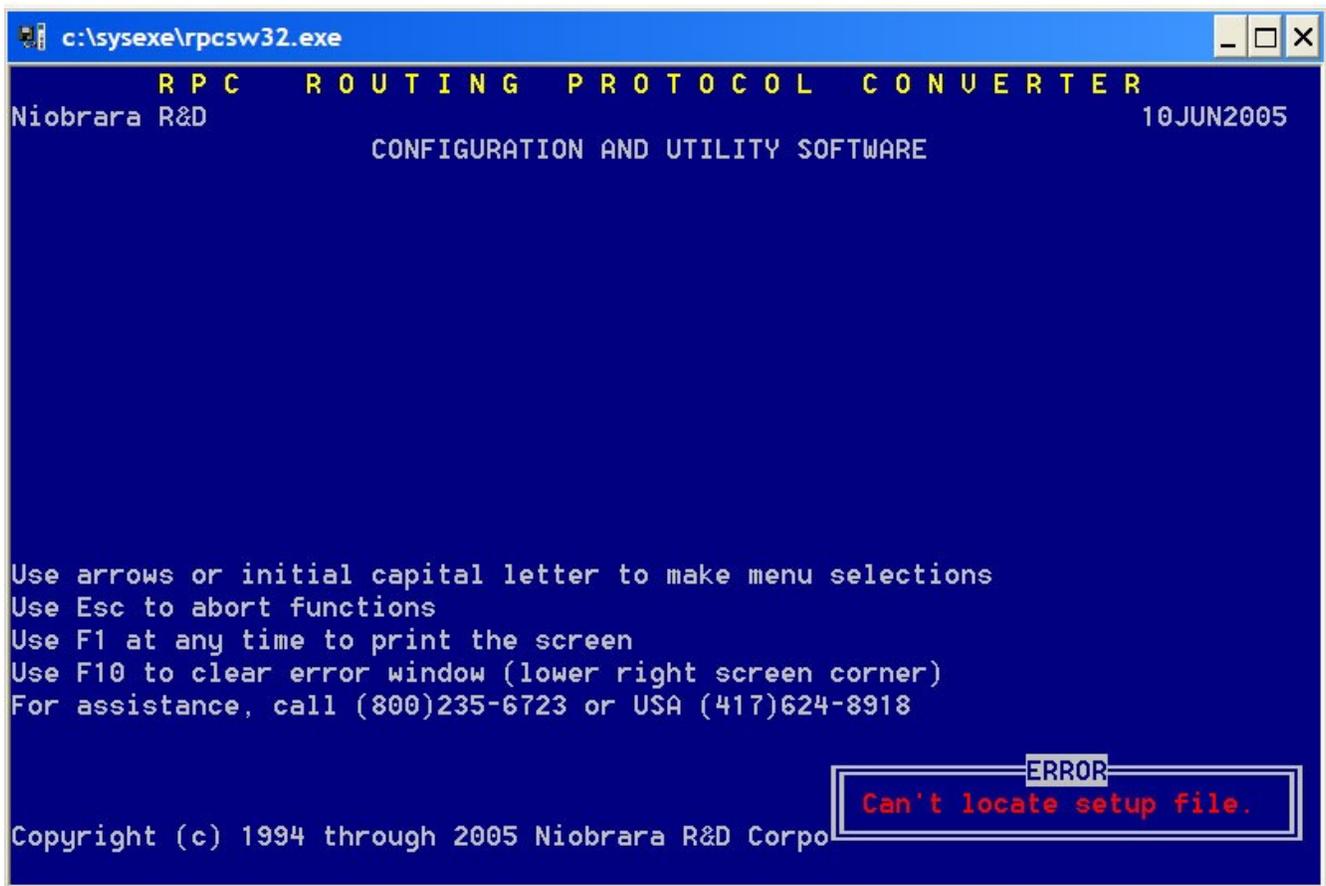
The image shows a terminal window titled "c:\sysex\rpcsw32.exe". The window has a blue background and white text. At the top, it says "RPC ROUTING PROTOCOL CONVERTER" in yellow. Below that, it says "Niobrara R&D" on the left and "10JUN2005" on the right. In the center, it says "CONFIGURATION AND UTILITY SOFTWARE". Below that, there is a list of instructions: "Use arrows or initial capital letter to make menu selections", "Use Esc to abort functions", "Use F1 at any time to print the screen", "Use F10 to clear error window (lower right screen corner)", and "For assistance, call (800)235-6723 or USA (417)624-8918". At the bottom left, it says "Copyright (c) 1994 through 2005 Niobrara R&D Corpo". In the bottom right corner, there is a red error message: "ERROR" in a small box, and "Can't locate setup file." in a larger box below it.

Figure 6: RPCSW32.exe

Once the error is cleared the communications configuration screen will appear (See Figure 7). Use the arrow keys to change the selection. Use the [Space Bar] to cycle through the choices in each selection.

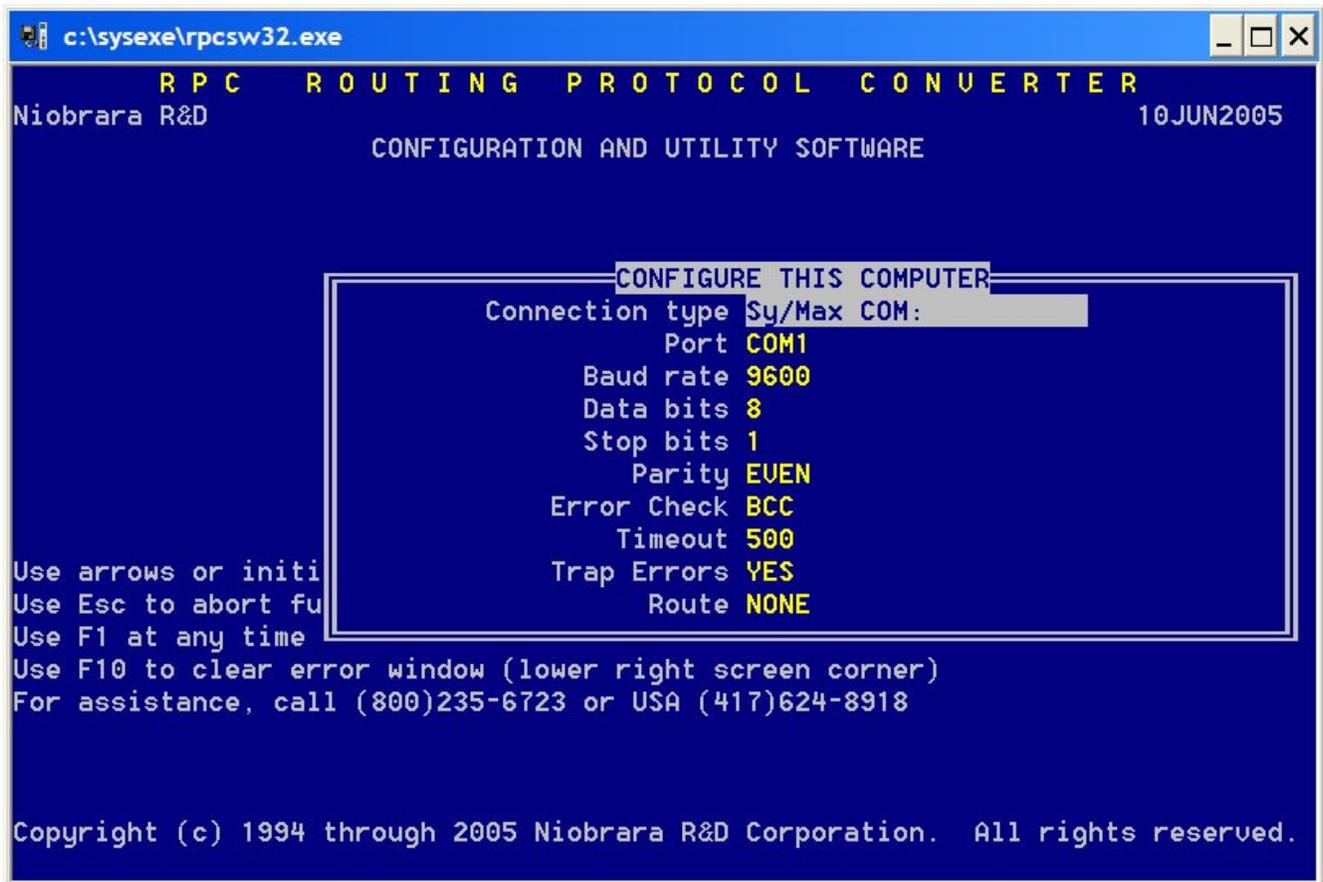


Figure 7: RPC configuration utility software.

Press the [Space Bar] to change the “Connection type” from “Sy/Max COM:” to “Modbus TCP” (See Figure 8). “Host” should be set to the current address of the CNOE, which in this case is 10.10.10.10. “Port” should be 502. Leave “Timeout” leave at 500. Leave “Trap Errors” at YES. “Index” should be 255. Press [Enter].

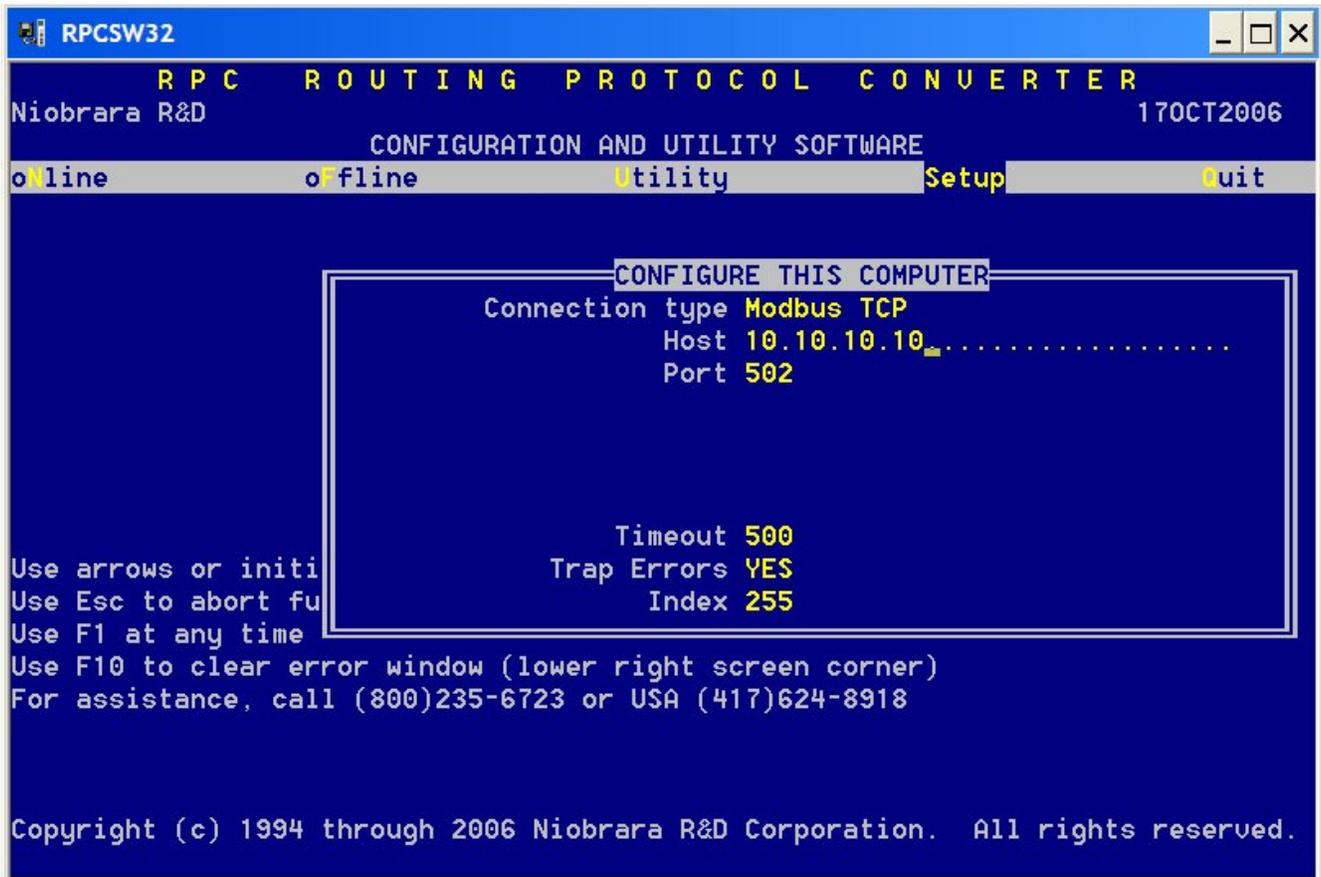


Figure 8: Using RPC software to setup the Connection type and Host IP address.

Press [N] when asked to save this configuration to a startup file (See Figure 9).

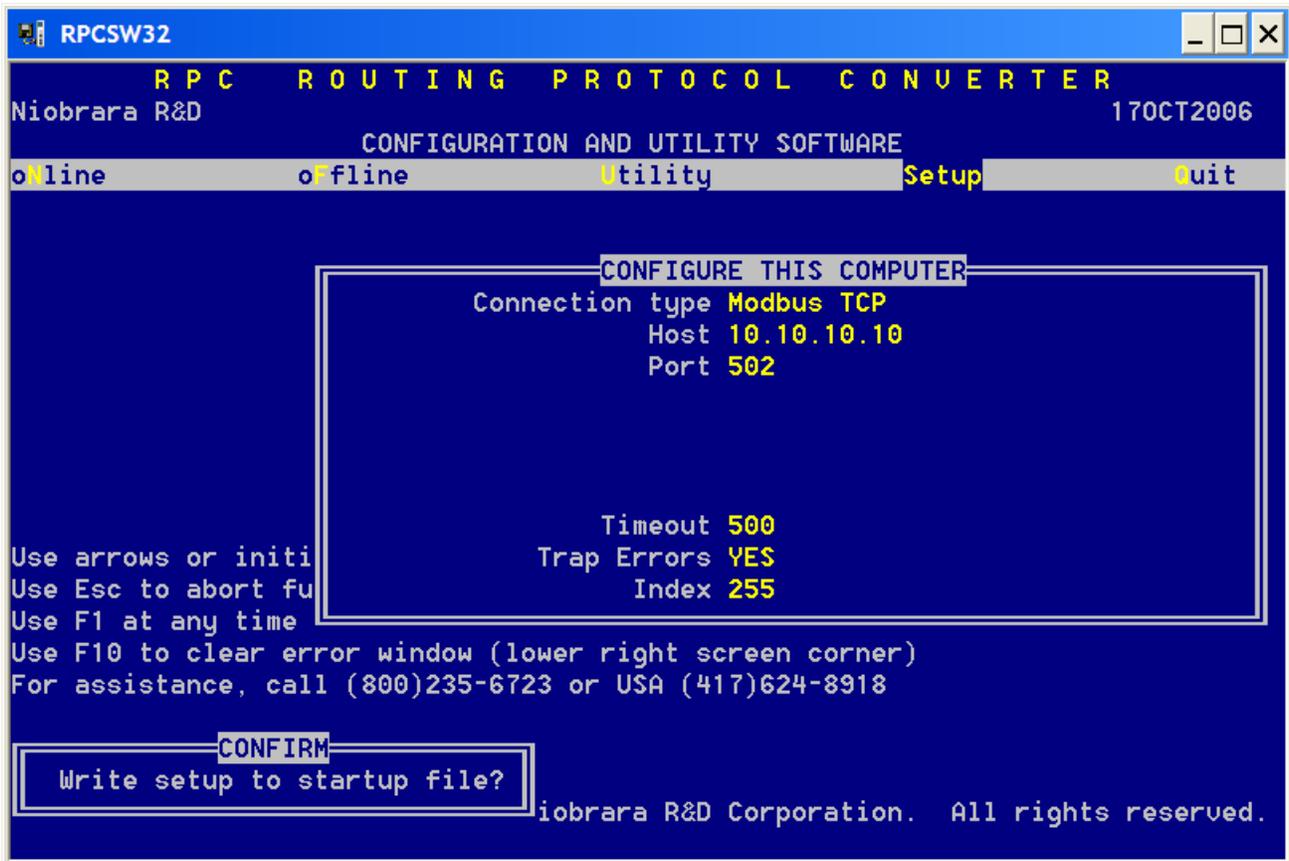


Figure 9: Write setup to startup file?

Arrow over to the “oFfline” menu or press the [F] key. Arrow down to “Edit configuration” in memory or press the [E] key (See Figure 10).

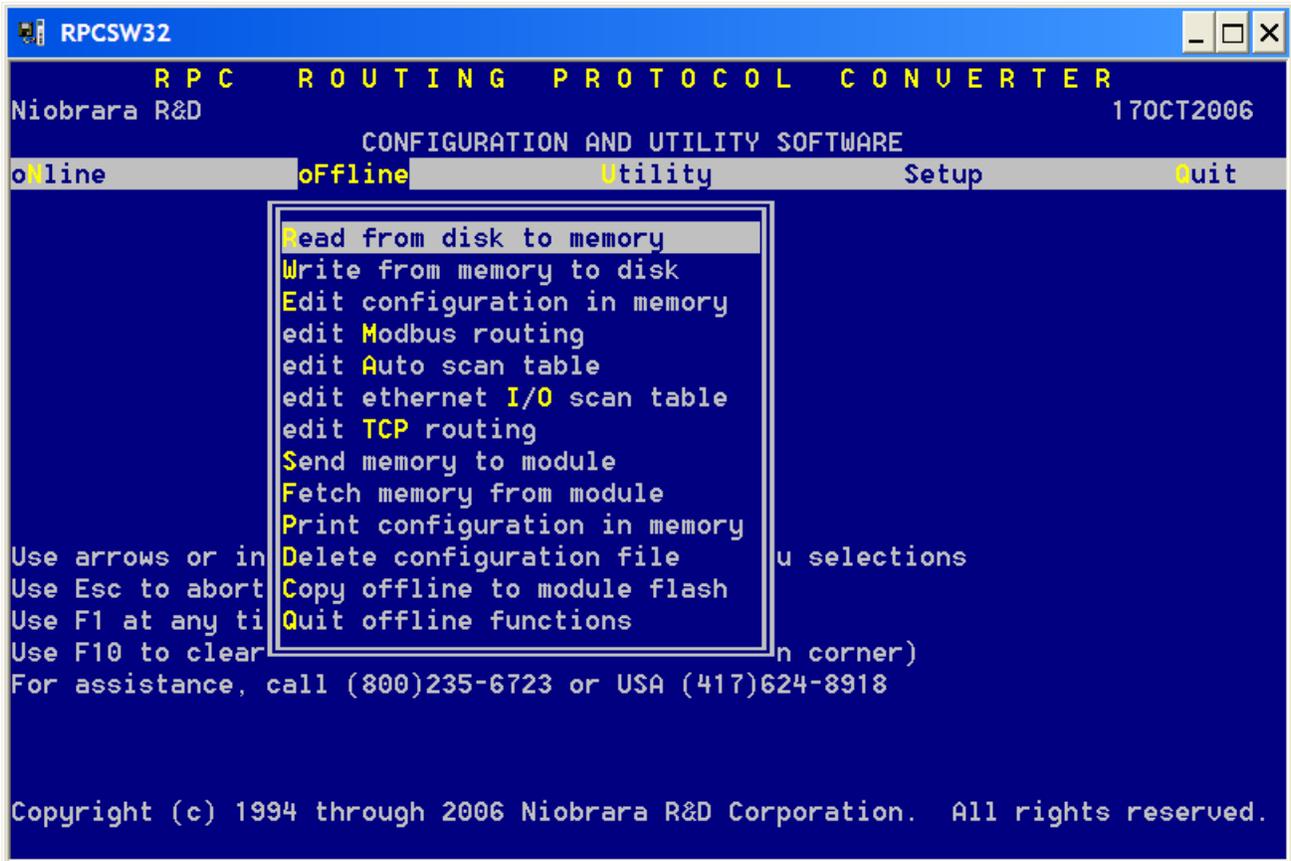


Figure 10: RPC oFfline menu

Use this screen to set up the “Ethernet” port. Use the arrow keys to move the selection bar to the “Ethernet” port. “Drop” is not used, and may be left at zero. “Ethernet” cannot be changed. “Protocol” should be “Modbus/TCP”. “IP Address, Subnet Mask, and Default Gate addresses” should be set to match the network (See Figure 11 for example settings). The rest of the values may be left as they are. Press the [Escape] key to exit this screen and return to the main menu.

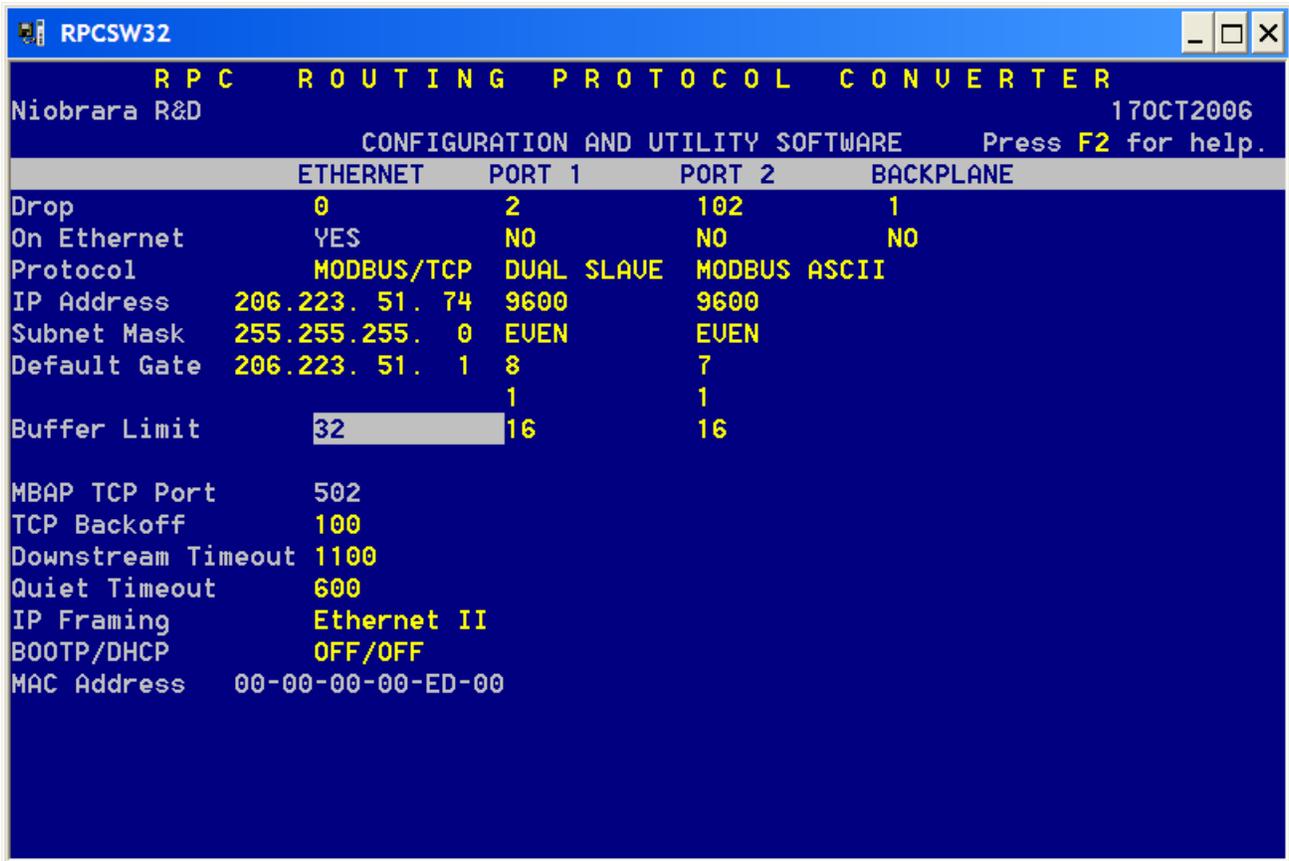


Figure 11: Example settings for IP, Subnet Mask and Default Gate Addresses

Navigate to “oFfline menu”, choose “Send memory to module”, and press [Enter] (See Figure 12).

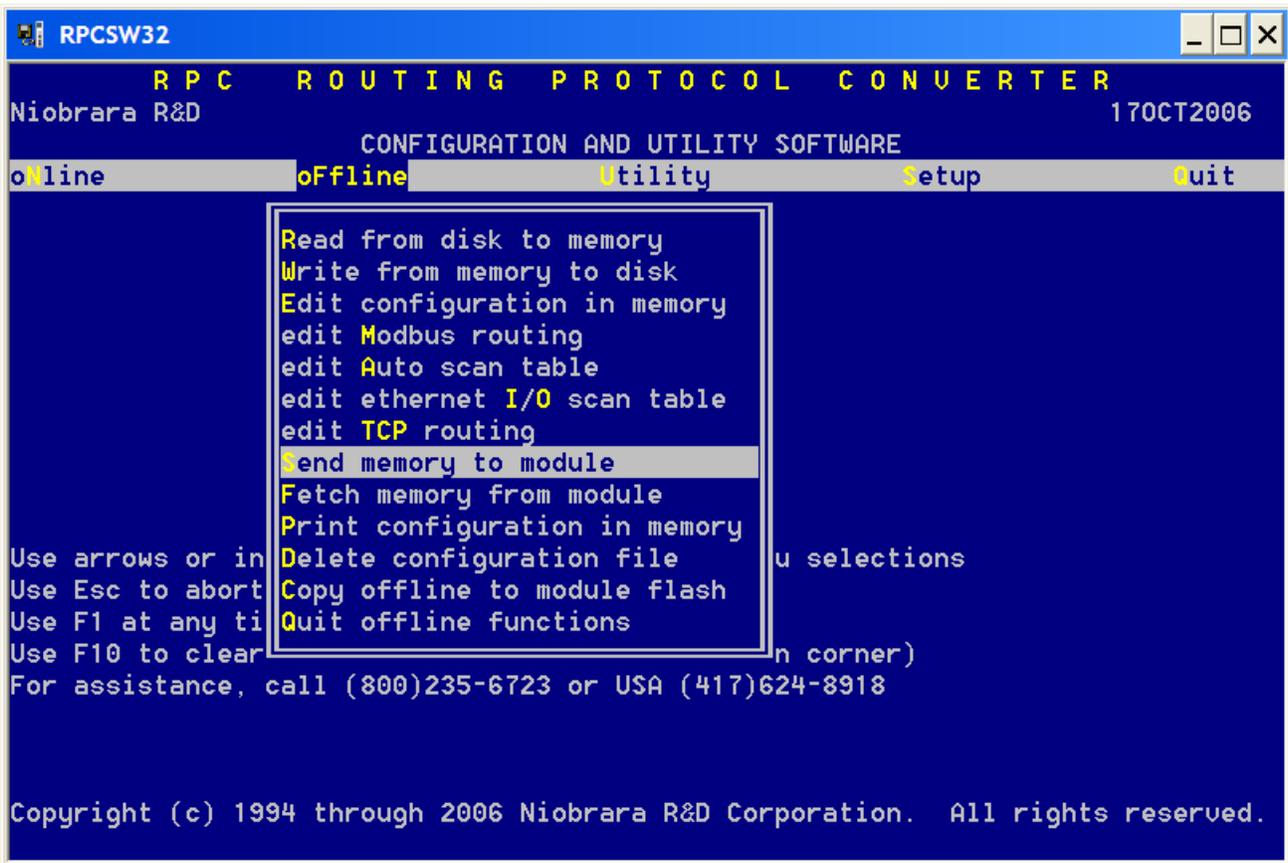


Figure 12: Send memory to module.

The screen will read “Sending port 0” (See Figure 13). The software then loses communications with the CNOE. This happens because the ethernet port is the first port to change. Press [Esc].



Figure 13: Error received on Send memory to module.

Set the PC's TCP/IP address back to its original configuration. Then, using RPC software, go to "Setup" menu, then "Serial communications", and change the "Host" to the value set in the offline setup (See the example in Figure 14). To ensure the rest of the setup is sent to the CNOE, Navigate to "oFfline" menu, choose "Send memory to module", and press [Enter].

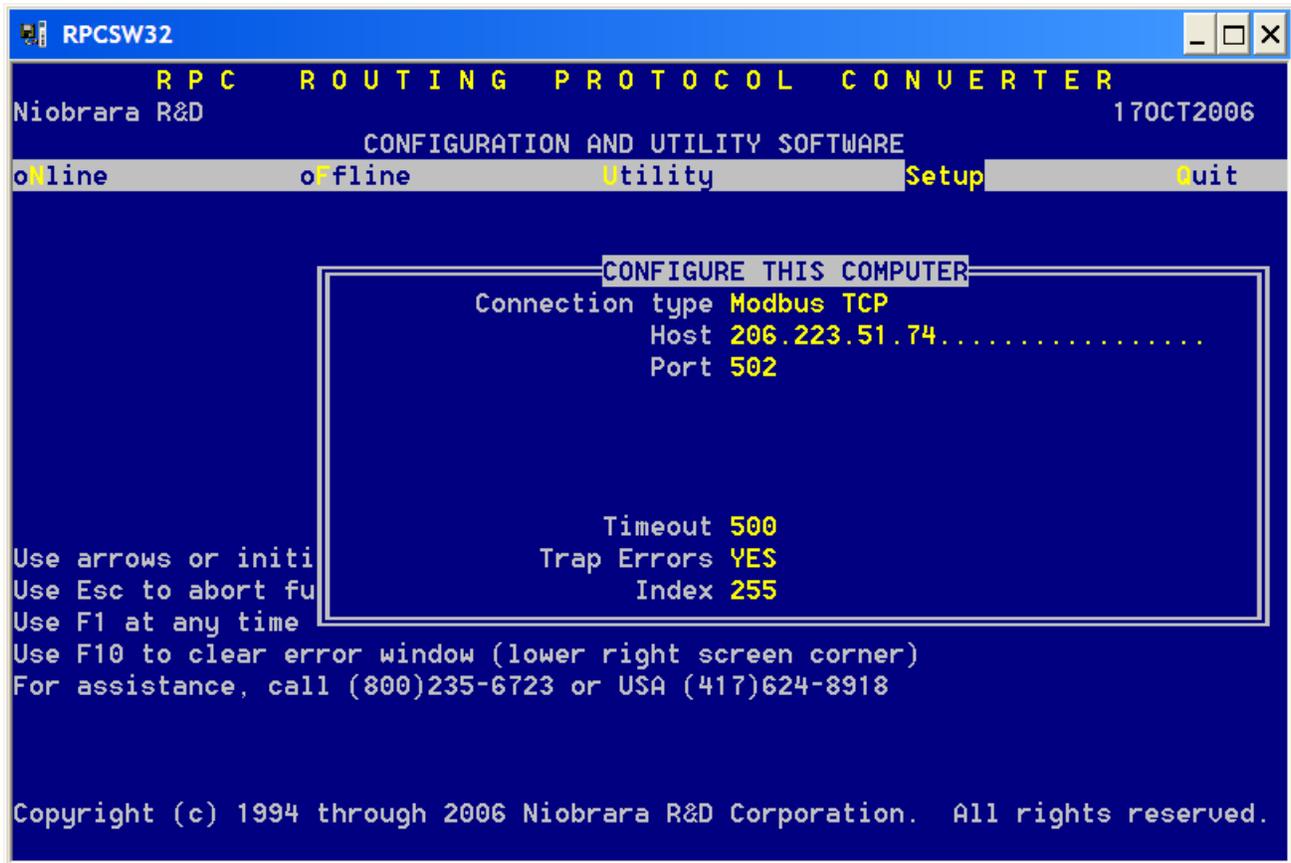


Figure 14: Change Setup Serial Communications

The CNOE's address is now configured. Once all the configuration is complete, "Write the setup to EEPROM" from the "Utility" menu (See Figure 15).

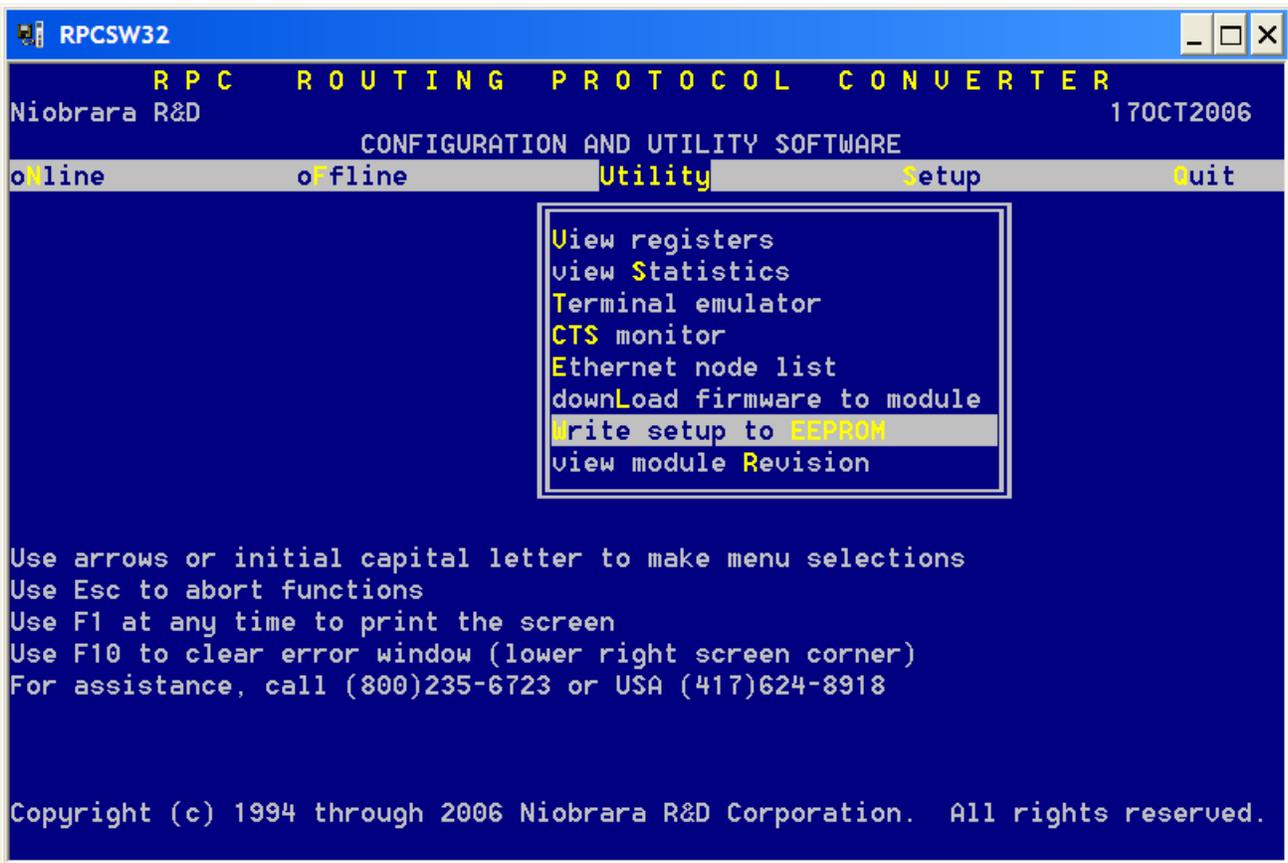


Figure 15: Write setup to EEPROM