RTU Dialup Client:
Windows 2000/XP Configuration Instructions

Telemetry And Control System Engineering Series

Version 1.05

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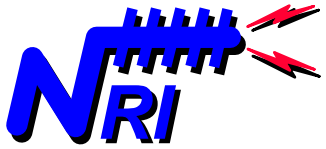
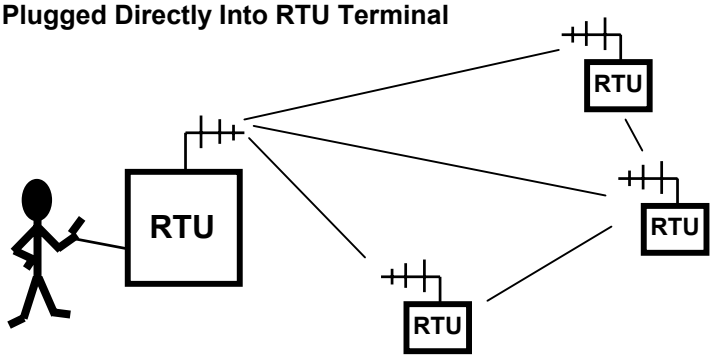


Navionics Research, Inc.
Saint Louis, Missouri USA
wireless-telemetry.com

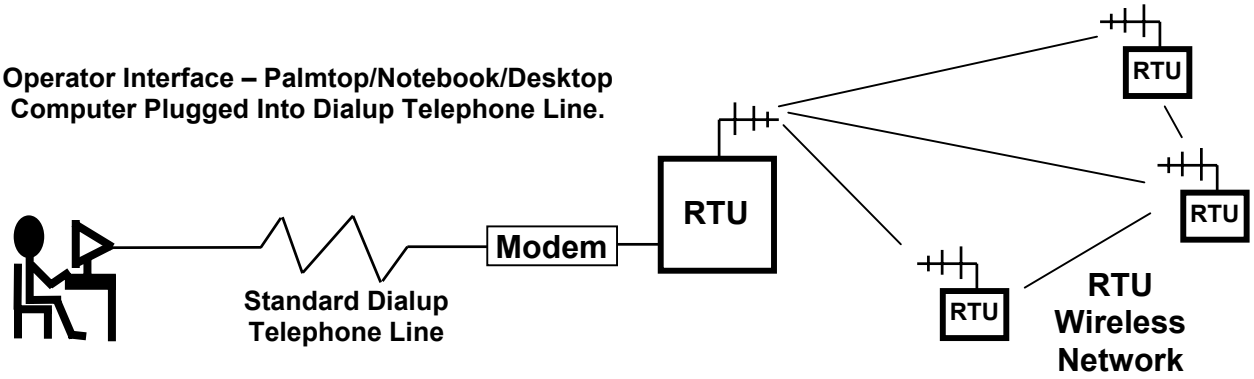
Typically, system operators interface with an RTU Network using a palmtop computer plugged directly into the Terminal Port of an RTU. Typical palmtop computers include the HP-100LX, HP-200LX, and the HP-720.

Operator Interface – Palmtop/Notebook Plugged Directly Into RTU Terminal



But often, the operator would like to interface to the RTU network from home or from the office. This can be accomplished by installing a telephone line and modem at one of the RTU locations. The operator may then connect to the RTU network from a remote location using virtually any type of modem-equipped computer and a phone line.

Operator Interface – Palmtop/Notebook/Desktop Computer Plugged Into Dialup Telephone Line.

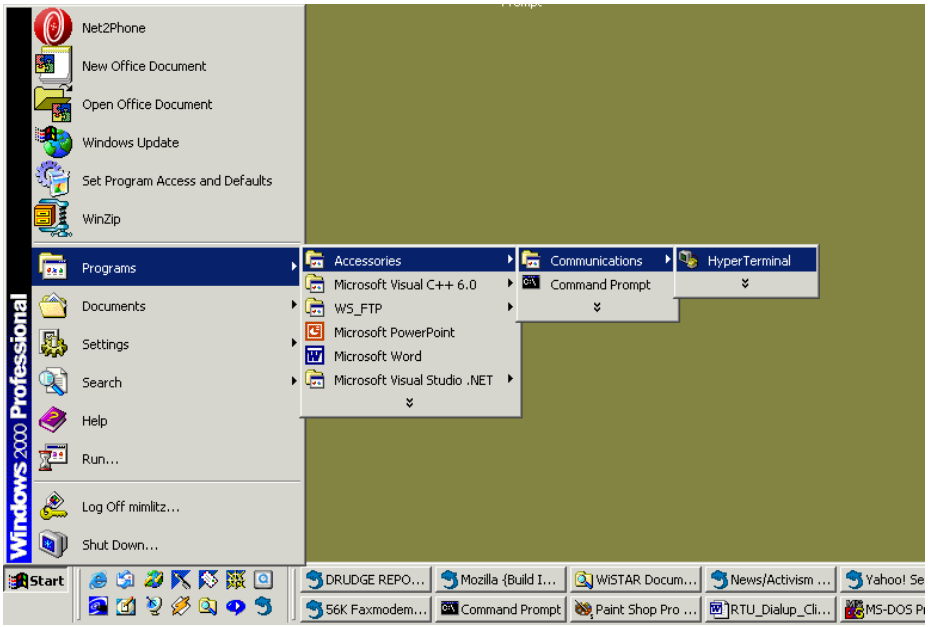


The purpose of this document is to describe the configuration of a dialup client on a remote Windows 2000-based computer. This document assumes that the client computer is equipped with a modem and that a standard analog phone line is available.

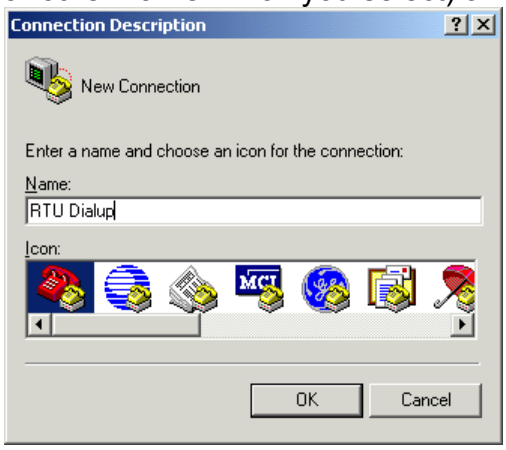
Remote Client Configuration

From a Windows2000-Pro desktop/notebook computer, launch the "HyperTerminal" Program…

START > PROGRAMS > ACCESSORIES > COMMUNICATIONS > HYPER TERMINAL



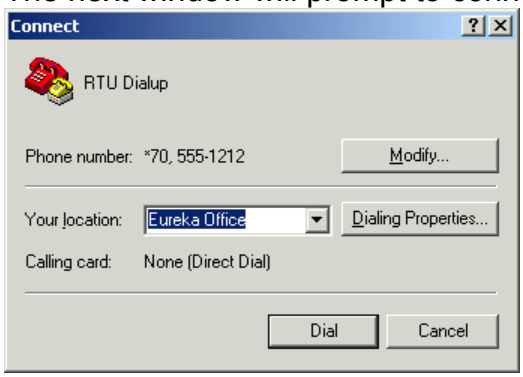
HyperTerminal will prompt for a name for the new connection. Type in "RTU Dialup" (or another name which you select) and press "OK".



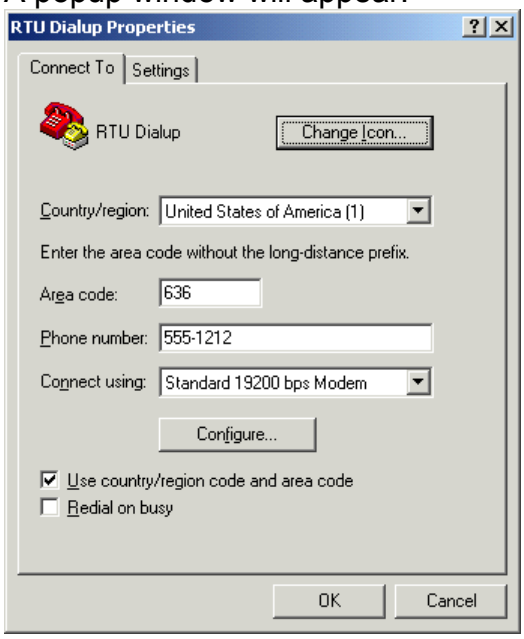
The next window will prompt for more information. Enter the following information:

Country/Region: USA
Area Code: <Your Area Code Here>
Phone Number: <The Telephone Number For The RTU's Phone Line>
Connect Using: <This Computer's Modem>

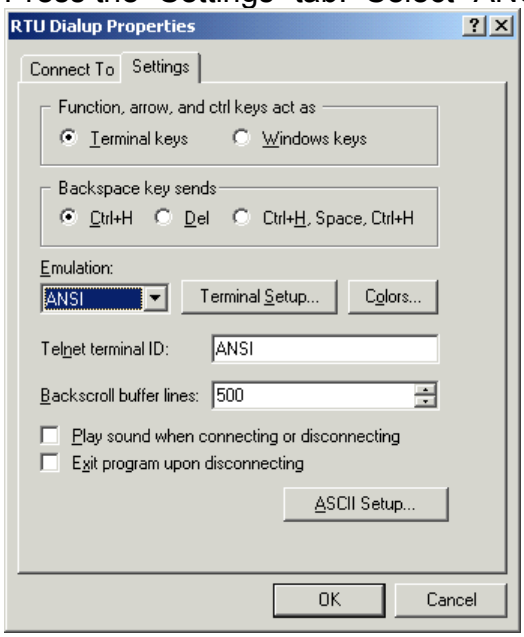
The next window will prompt to connect. Press the "Modify" button.



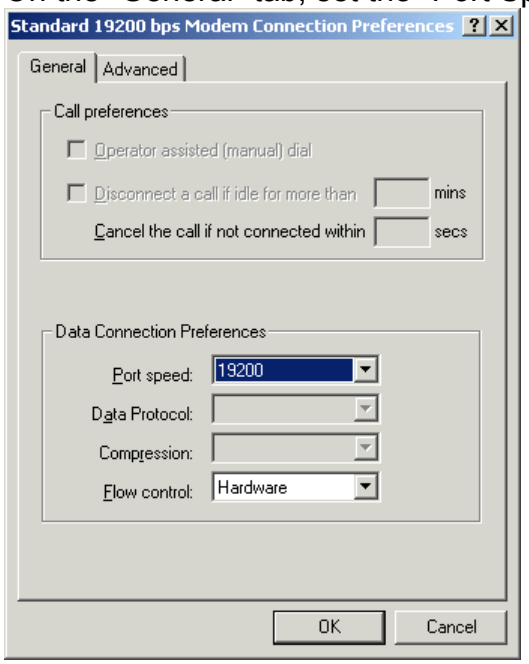
A popup window will appear.



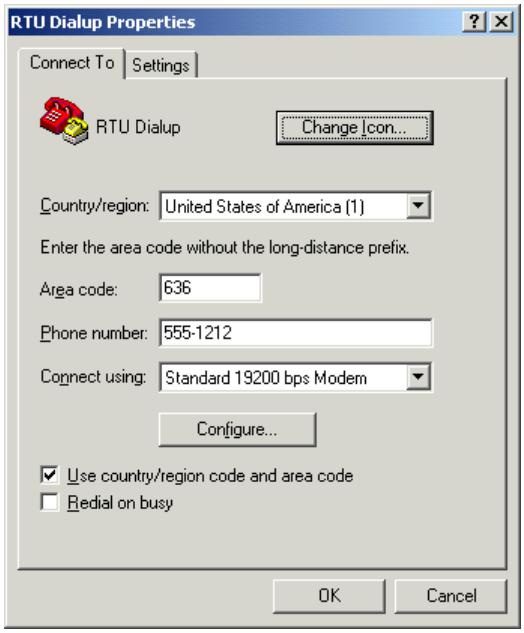
Press the “Settings” tab. Select “ANSI” Emulation…



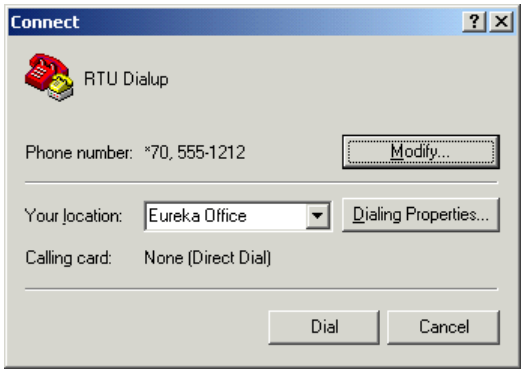
Press the “Connect To” tab; and press the “Configure” button. A popup window will appear. On the “General” tab, set the “Port Speed” to 19200; and press “OK”…



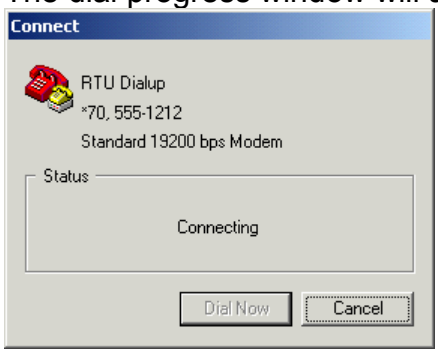
Press the “OK” button on the remaining popup window…



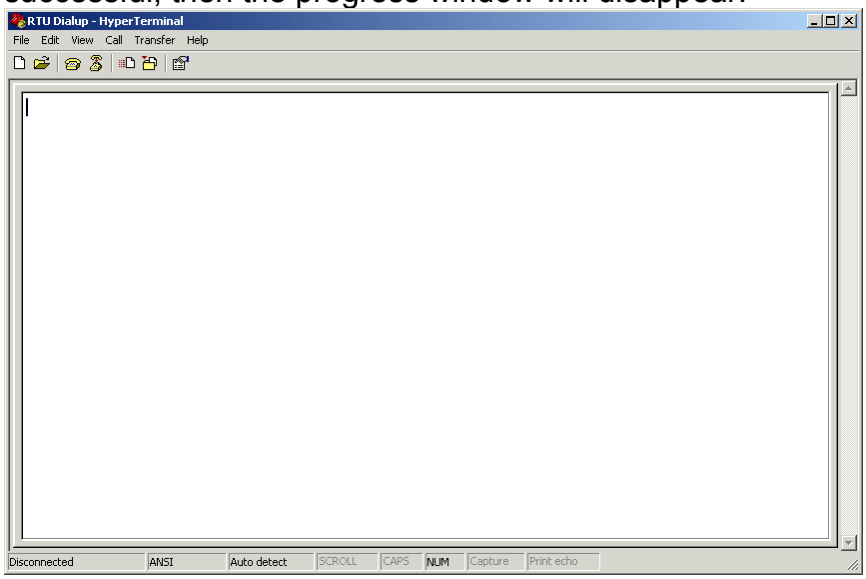
Press the “Dial” button to make the connection…



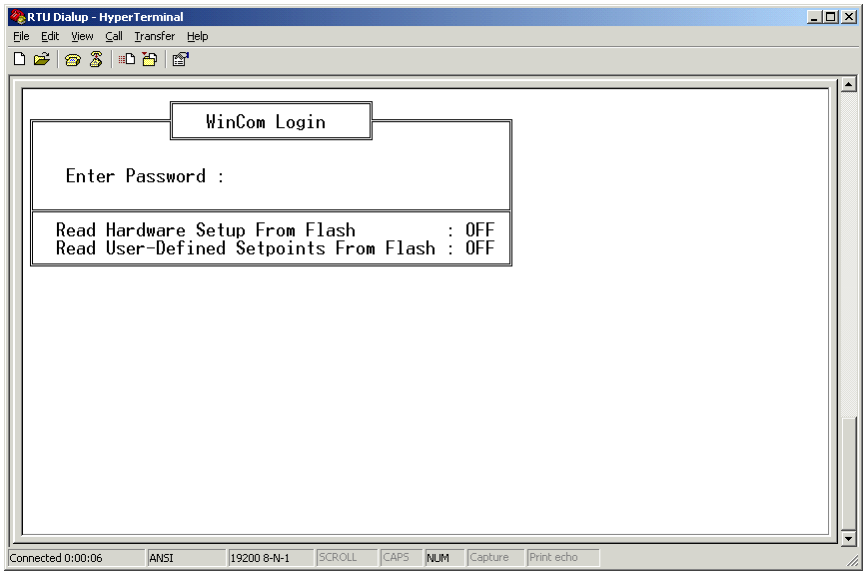
The dial progress window will appear.



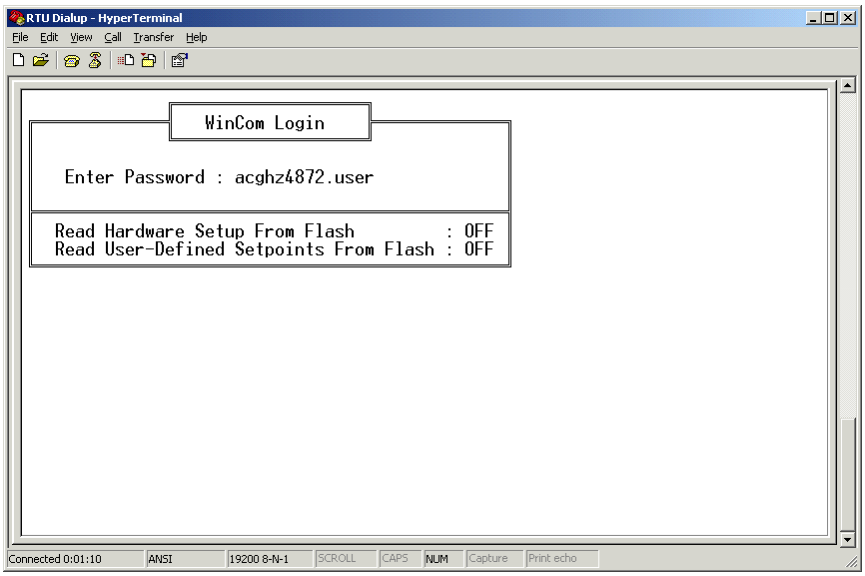
If a connection is not successful, then an error message will appear. If the connection is successful, then the progress window will disappear.



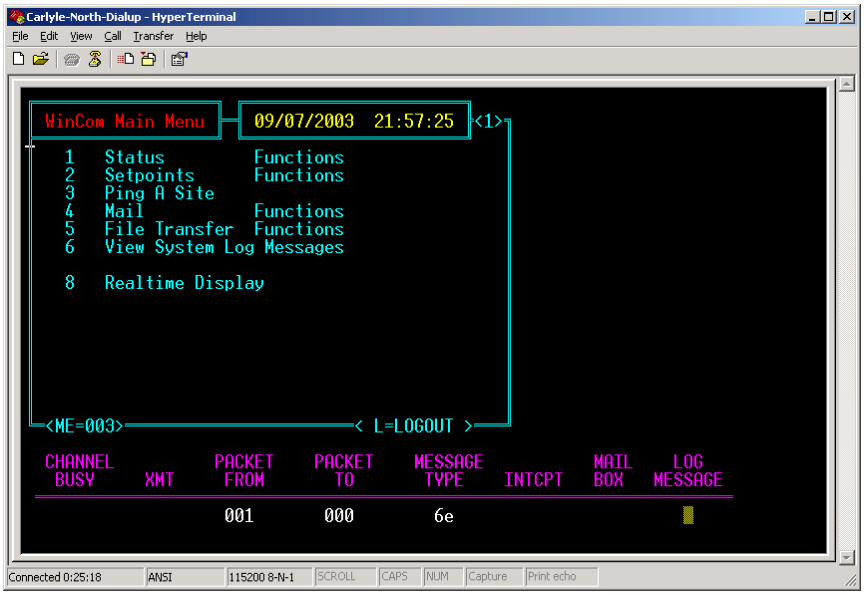
At this point, press <ENTER> on the keyboard. The login screen will appear…



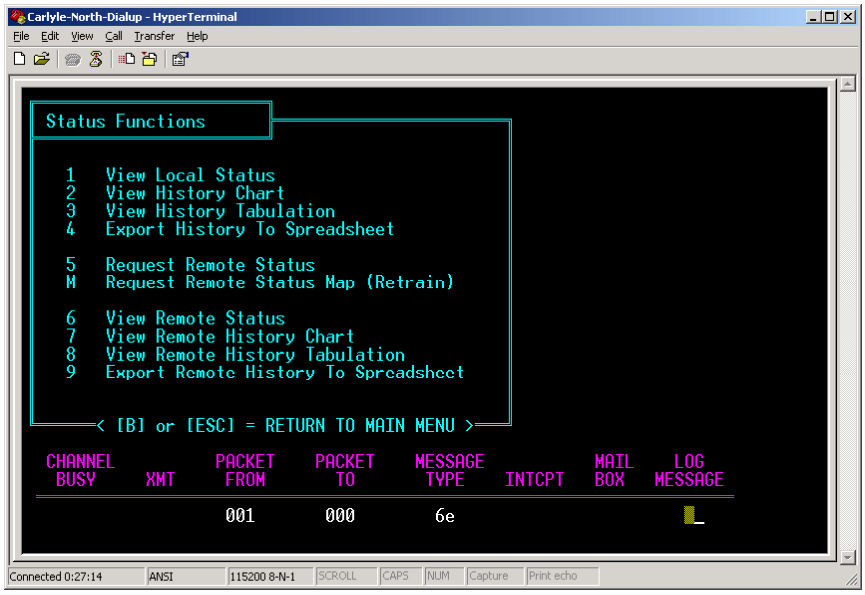
Type in the “user password”. In this example, the “user password” is: acghz4872.user Press the <ENTER> key…



At this point, the “WinCom Main Menu” will be displayed.

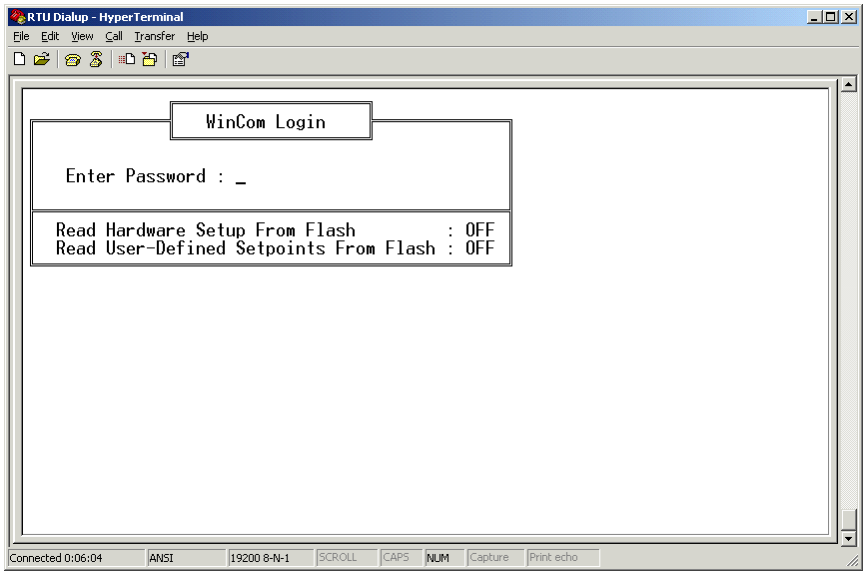


Navigation is accomplished through the use of menu “hot keys”. For example, the “Status Functions Menu” is viewed by pressing the number <1>.



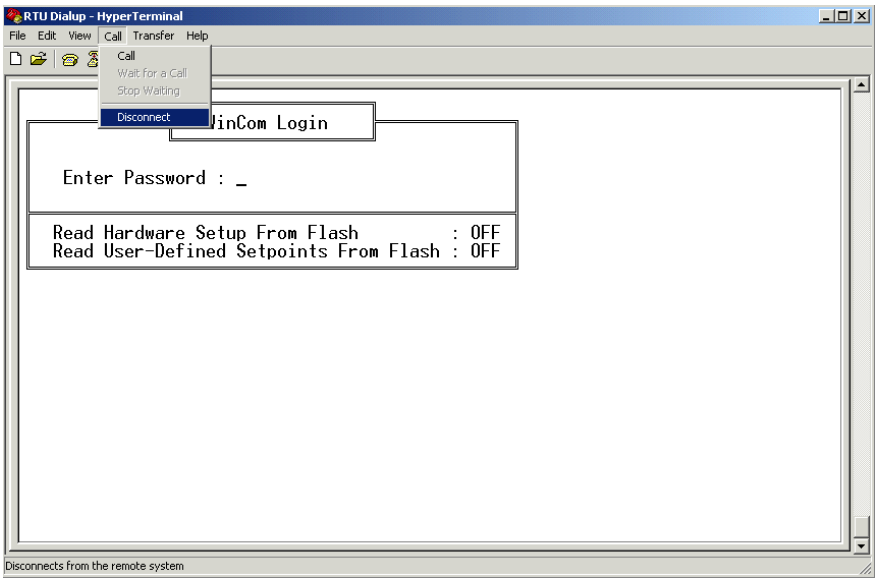
In order to return to the “Main Menu” from any submenu, press the <ESC> key.

When finished, it is important for security reasons to log out from the RTU. This is accomplished by hitting the <L> key from the “Main Menu”. After logging out, the “Login Screen” will be displayed again…



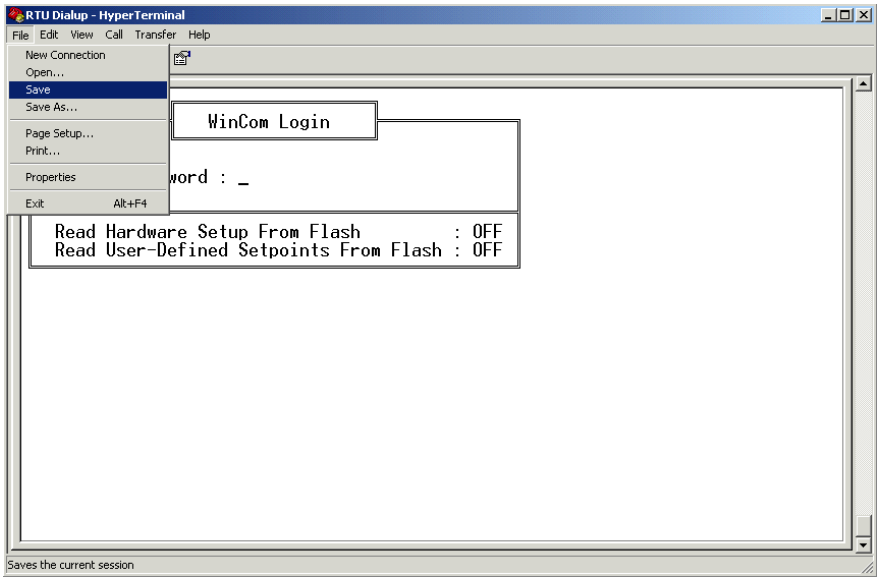
After logging out, disconnect the modem connection: On the menu bar of the HyperTerminal program…

Call > Disconnect



On the menu bar of the HyperTerminal program, save these settings…

File > Save



Now, the HyperTerminal is configured for connection to a remote RTU. In the future, connections can be made conveniently by selecting the saved configuration, in this example named: “RTU Dialup”.

Appendix 1: Troubleshooting Post-2002 Modem Connections

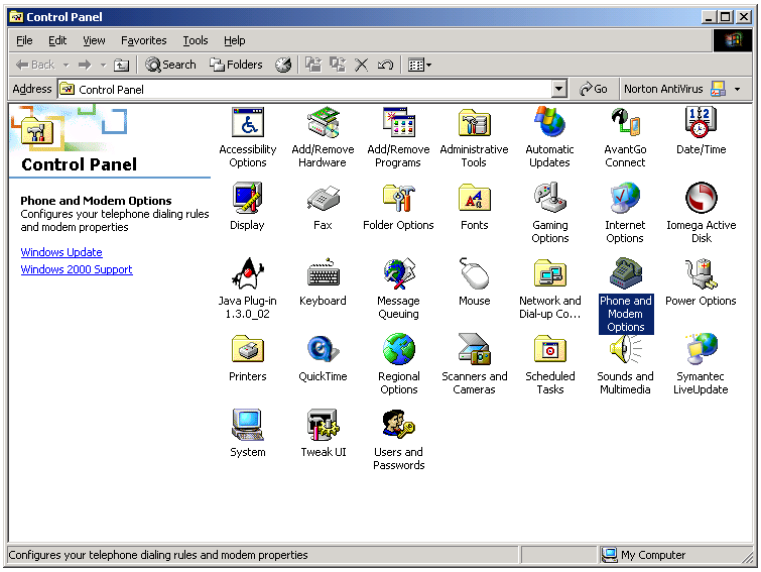
Problem: I have a computer and/or modem manufactured after 2002, and my computer will not negotiate a connection with the remote RTU's modem.

Solution: Certain modems manufactured after 2002 have default settings that do not allow direct connection to another modem at low speeds over a telephone line. Fortunately, there is a straightforward solution.

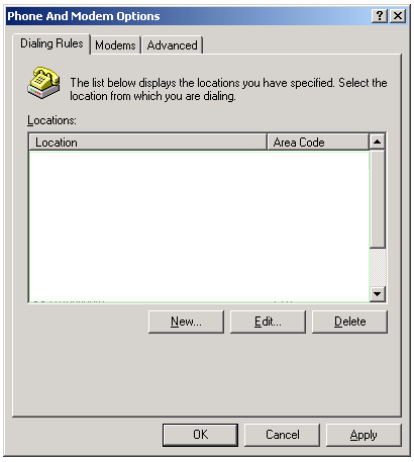
1. From a Windows2000-Pro desktop/notebook computer, open the "Control Panel"…

2. START > SETTINGS > CONTROL PANEL

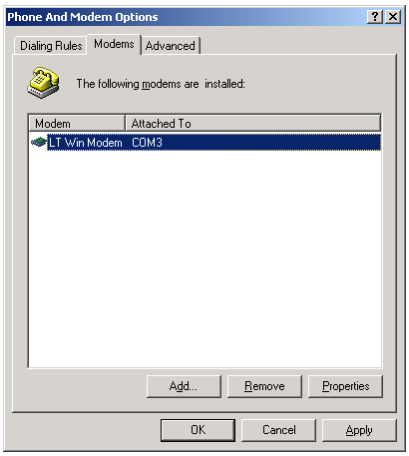
3. The following window will appear…



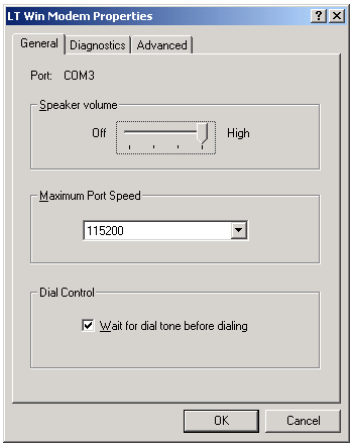
4. Double-left-click on the “Phone and Modem Options” icon, and the following dialog window will appear…



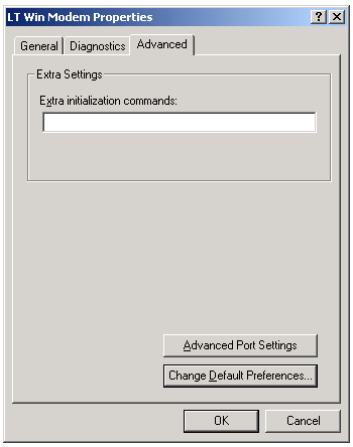
5. Select the “Modems” tab (left-click on the “Modems” tab)…



6. Your modem will appear in the dialog window (probably different from the modem in this example). Select your modem from the list, and left-click on the “Properties” button. The following dialog window will appear…

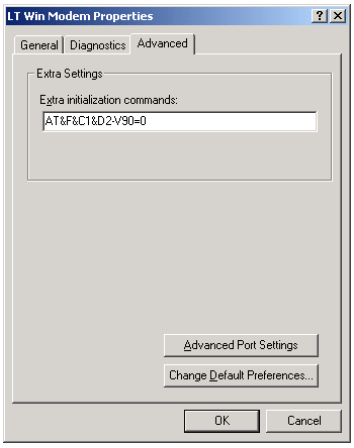


7. Select the “Advanced” tab (left-click the “Advanced” tab), and the following dialog will be displayed…



8. In the “Extra initialization commands” edit box, enter the following command…

AT&F&C1&D2-V90=0



9. Close all dialog windows by pressing the “OK” button for each window. The procedure is complete when all windows have been closed. The next time that HYPERTERMINAL attempts to connect to a remote RTU’s modem, a connection should be successfully negotiated.

10. If the above procedure does not correct the problem, then repeat the procedure with the following command replacing the command specified in step 9 above…

ATZ&U10&N28

(Un – Determines the “floor” connect speed, Nn – Determines the “ceiling” connect speed.)

n	Speed
0	No Restriction
1	300
2	1200
3	2400
4	4800
5	7200
6	9600
7	12,000
8	14,400
9	16,800
10	19,200
11	21,600
12	24,000
13	26,400
14	28,800
15	31,200
16	33,600
17	28,000
18	29,333
19	30,666
20	32,000
21	33,333
22	34,666
23	36,000
24	37,333
25	38,666
26	40,000
27	41,333
28	42,666
29	44,000
30	45,333
31	46,666
32	48,000
33	49,333
34	50,666
35	52,000
36	53,333
37	54,666
38	56,000
39	57,333

System Name	RTU Phone Number	Password

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