Question: Is there a simple way to test my serial device (REM-64, etc.) on a Windows Platform?

Answer: The HyperTerminal application that ships with Windows can be used to quickly verify the operation of serial devices.

Once users have entered the desired characteristics or a Serial Bus into a Table, HyperTerminal gives them an opportunity to pass strings of data to the device according to these entered parameters.

Although this FAQ illustrates using HyperTerminal to verify that Keithley's REM-64 is communicating with a computer's Serial Port, it illustrates concepts that can be adapted for other devices. Before beginning the test, the user needs to select which of several operational possibilities need to be tested. As an illustration, consider testing the REM-64 to operate:

        300 baud
        Even Parity
        7 data bits
        1 Stop Bit
        with an Echo
        and no Control lines!

When installed with the standard options on a Windows 2000 interface, HyperTerminal can be opened with the sequence:

START/Programs/Accessories/Communications/HyperTerminal

After Opening the program, there are only a few screens required to define the serial bus parameters. Selecting the File/New Connection from the drop down menu will prompt you for a new Name for the connection as shown below:

Any name could be used. For this example the name NEWPORT was used. After entering a name for the new configuration, the user is asked to define various parameters of the connection. This example uses HyperTerminal to connect directly to the Com Port.


The screen shot below, indicates setting the first set of parameters for this example.
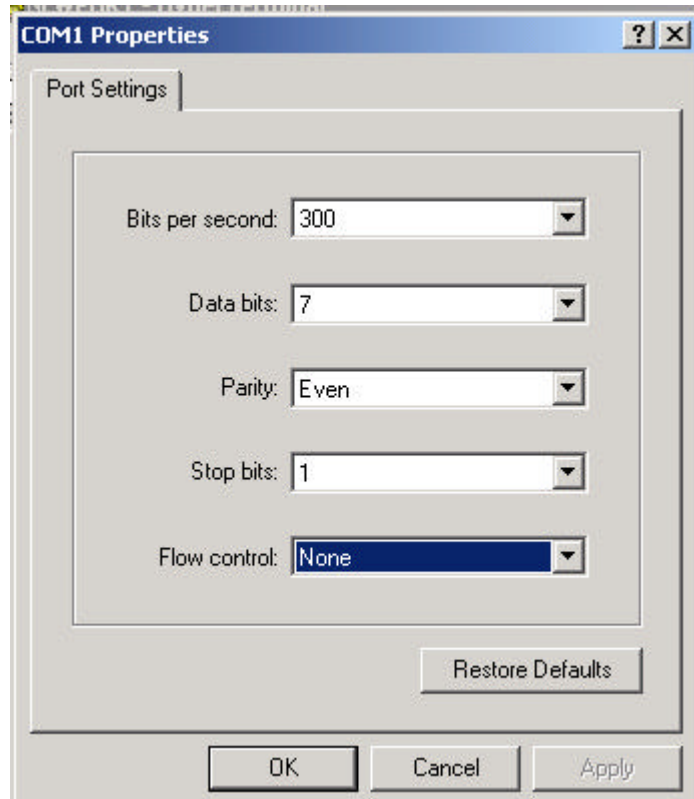
Next use the menus in HyperTerminal and select File|Properties to display a two tabbed dialog as shown below. Select the Settings tab.
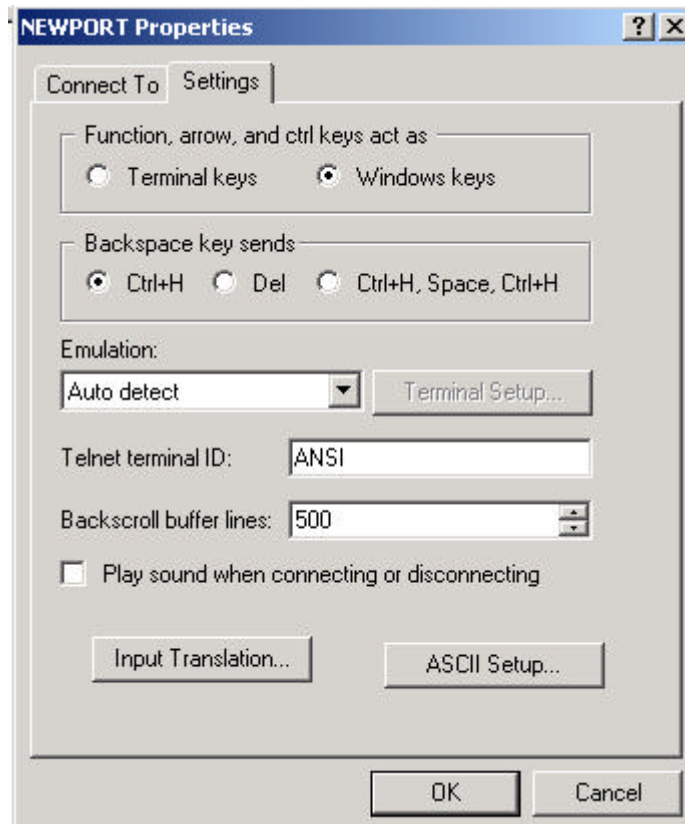
For this example, it's convenient to also configure the ASCII Setup! Shown below is a screen shot of selections made when the ASCII setup button is pressed.
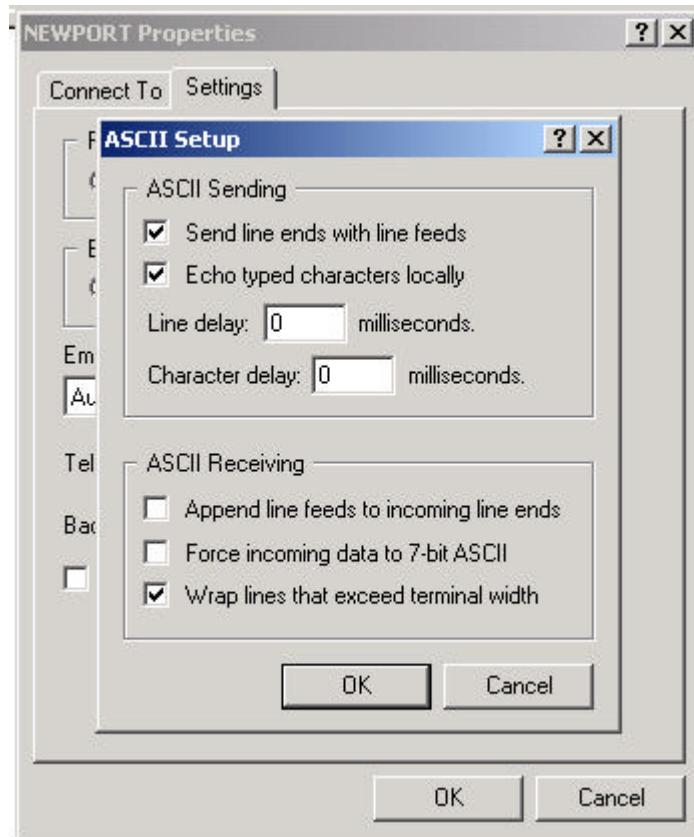
Now its appropriate to hit the OK button to back out of all these configuration screens. Save this HyperTerminal Configuration.

After setting up HyperTerminal for the desired configuration, the REM-64 (or other device you are using) needs to be set to operate with the same serial bus configuration. There are three configuration switches used to configure the REM-64 Serial interface. The first switch, the Protocol Switch should be set as shown below.
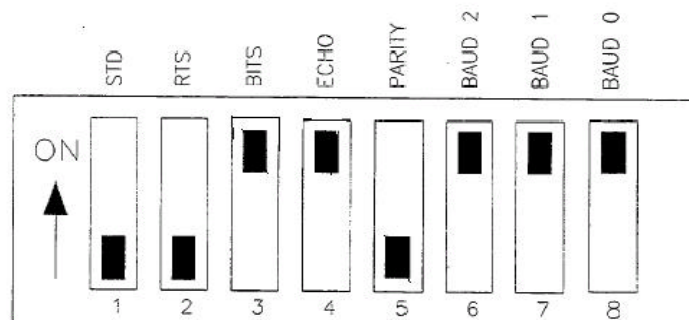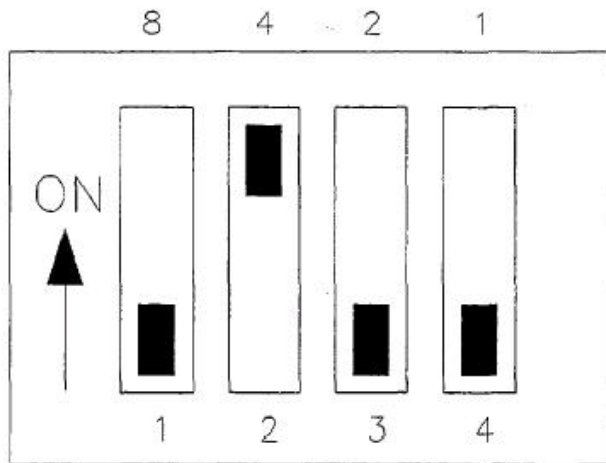

Configuration set for NO Contol Lines, 7 Data Bits, Echo On, Even Parity and Baud Rate set to 300

The Serial Bus Selection Switch needs to be programmed for RS-232 operation as indicated below

RS-232
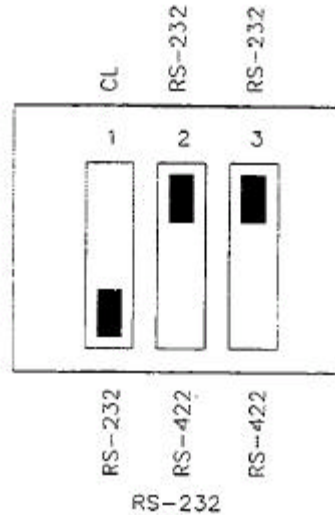
And then you need to give the REM-64 its own address. The Board Address settings shown below give the REM-64 an address of 4.


Setting the Board Address Switch

After configuring HyperTerminal and the REM-64 to operate in a consistent fashion, it's easy to check the connection. Although the REM-64 was designed so that several different units could run from a single serial bus, only one of them can be active at a time. Sending the command B# where # is the Board address for a REM-64 will activate that

board as indicated by the ACTIVATE LED (as opposed to the STATUS LED that flashes regularly) mounted on the edge of the REM-64.

The HyperTerminal screen shown below illustrates that after enabling the REM-64 (B4 the first line on the screen)
The REM-64 echos commands that are sent (notice that the second line has double entries…only A7 was typed)
The 3rd line illustrates the REM-64's Response to errant commands.
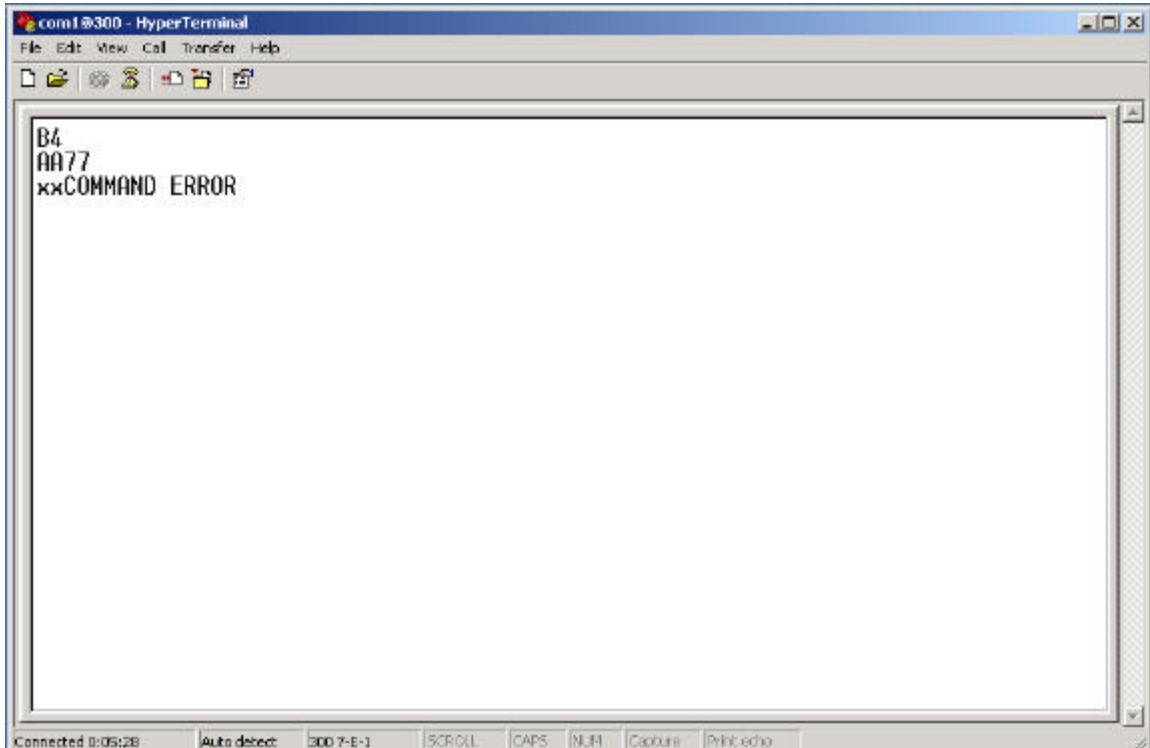
Additional Notes:

1) Microsoft's web site reports that the version of HyperTerminal that ships with Windows 98 may not echo characters to the screen and suggests that users download HyperTerminal Private Edition 4.0 from Hilgraeve's Web Site, or obtain it from Hilgraeve Technical Support.
2) The author experienced that occasionally HyperTerminal would make an error in saving the com port's configuration. The Port Settings can be reviewed if the port is open. The Screen Shot below illustrates that the Call Menu offers a way to Disconnect from the com port to allow a review of the port settings.
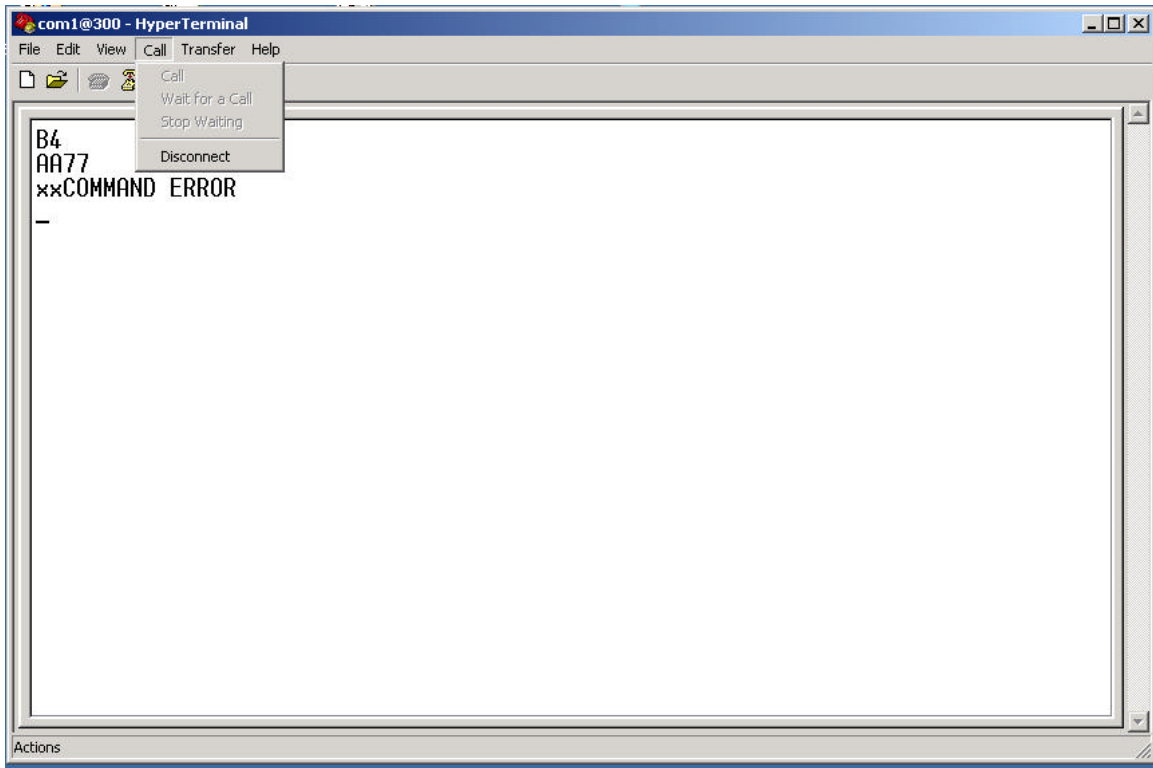
Summary

This FAQ has shown that HyperTerminal offers a Windows application that can be used to access devices that communicate on RS-232.