

Using HyperTerminal with Agilent General Purpose Instruments

Windows® HyperTerminal can be used to program most General Purpose Instruments (not the 531xx series counters) using the RS-232 Serial Bus.

Instrument and HyperTerminal Setup Procedure

1. In order to use the instrument with RS-232, the correct cable must be used. It is a common mistake that any 9-pin RS-232 cable can be used. This is not true. Most Agilent instruments use the Null modem cable that is shipped with the instrument. If unsure about the cable, check the connections, using an ohmmeter, to the connections shown on page 6 in this document or in the instrument's User's manual.
2. Setup the instrument to the factory default RS-232 settings. Refer to the instrument User's manual for the settings. The settings for some typical instruments are as follows:

Agilent 34970A Data Acquisition/Switch Unit:

Baud Rate: 57600 (selectable)
Data bits: 8 (selectable)
Parity: None (selectable)
Start bits: 1 (fixed)
Stop bits: 1 (fixed)
Flow control: XON/XOFF

Agilent 34401A Digital Multimeter:

Baud Rate: 9600 (selectable)
Data bits: 8 (selectable)
Parity: None (selectable)
Start bits: 1 (fixed)
Stop bits: 2 (fixed)
Flow control: DTR/DSR (fixed)

Agilent 33120A Function Generator/Arbitrary Waveform Generator:

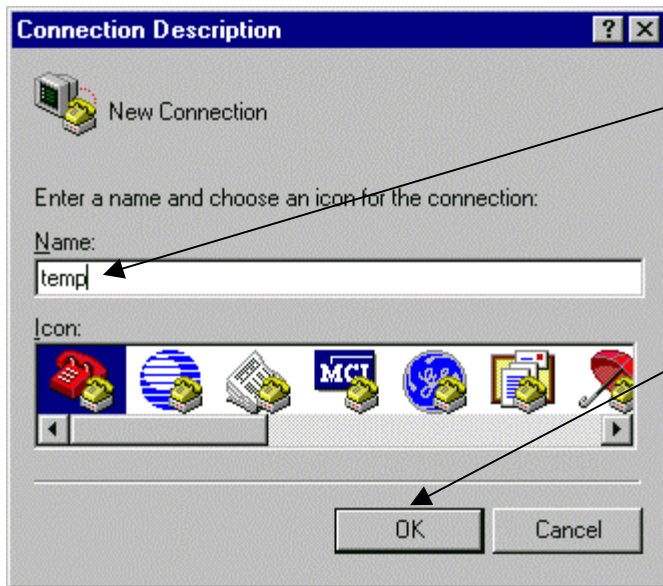
Baud Rate: 9600 (selectable)
Data bits: 8 (selectable; use this setting to download arbitrary waveforms)
Parity: None (selectable; use this setting to download arbitrary waveforms)
Start bits: 1 (fixed)
Stop bits: 2 (fixed)
Flow control: DTR/DSR (fixed)

Agilent 33250A Function Generator/Arbitrary Waveform Generator:

Baud Rate: 57600 (selectable)
Data bits: 8 (selectable; use this setting to download arbitrary waveforms)
Parity: None (selectable; use this setting to download arbitrary waveforms)
Start bits: 1 (fixed)
Stop bits: 1 (fixed)
Flow control: DTR/DSR (use any flow control, except XON/XOFF, to download arbitrary waveforms)

For other Agilent instruments not listed here, refer to the instrument's User's Manual.

3. Select HyperTerminal; use the instructions for your operating system to select it.
4. After HyperTerminal is enabled, select the communication with the instrument, as follows:



A. Enter a connection name

B. Click on "OK"

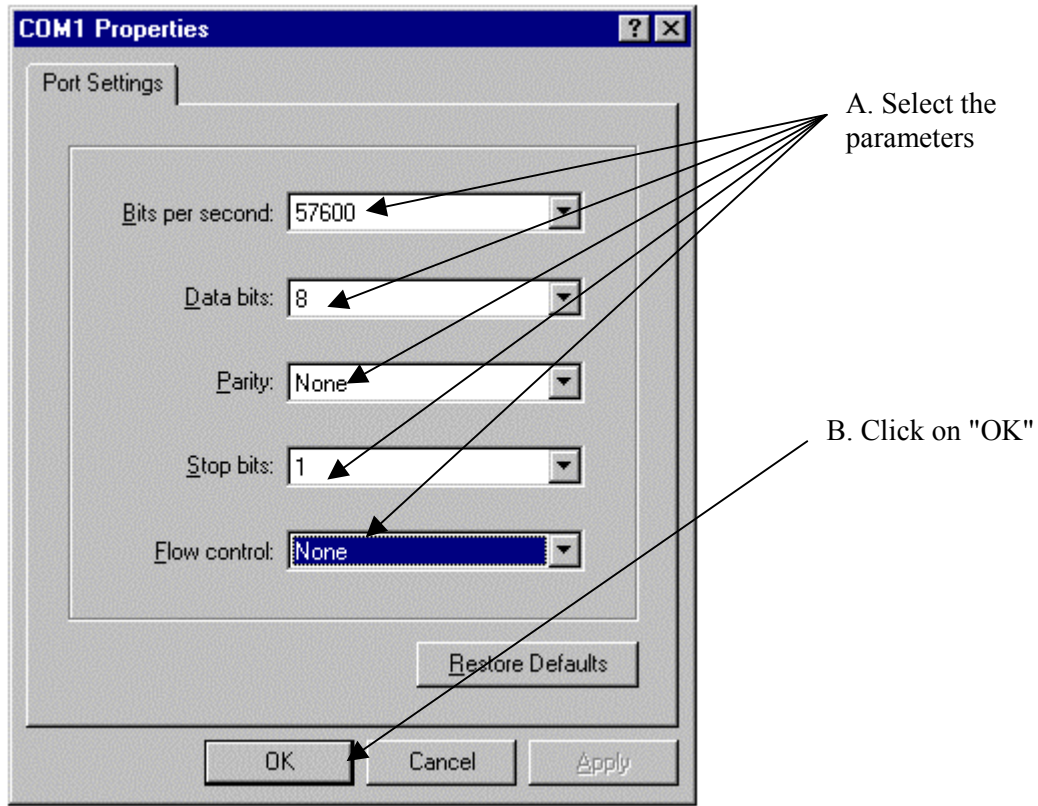
5. Select the COM port, as follows:



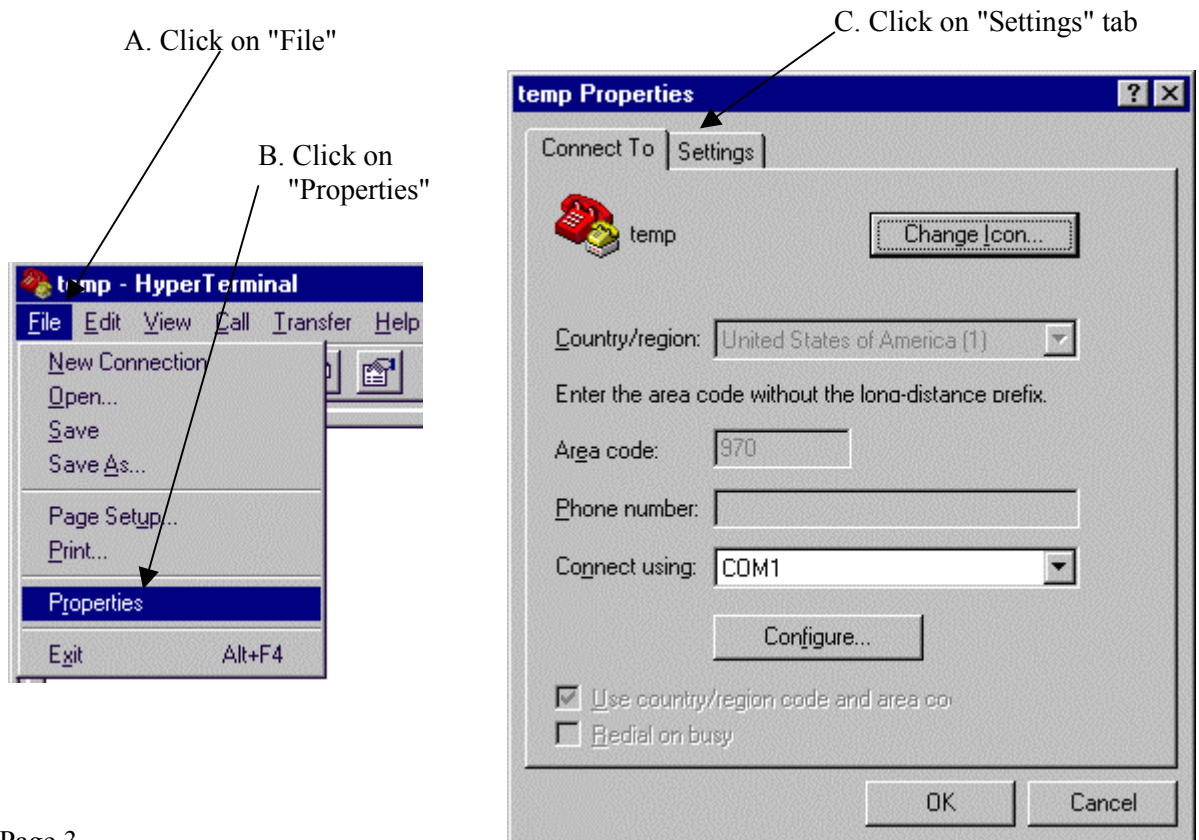
A. Select the port (COM1, COM, etc.)

B. Click on "OK"

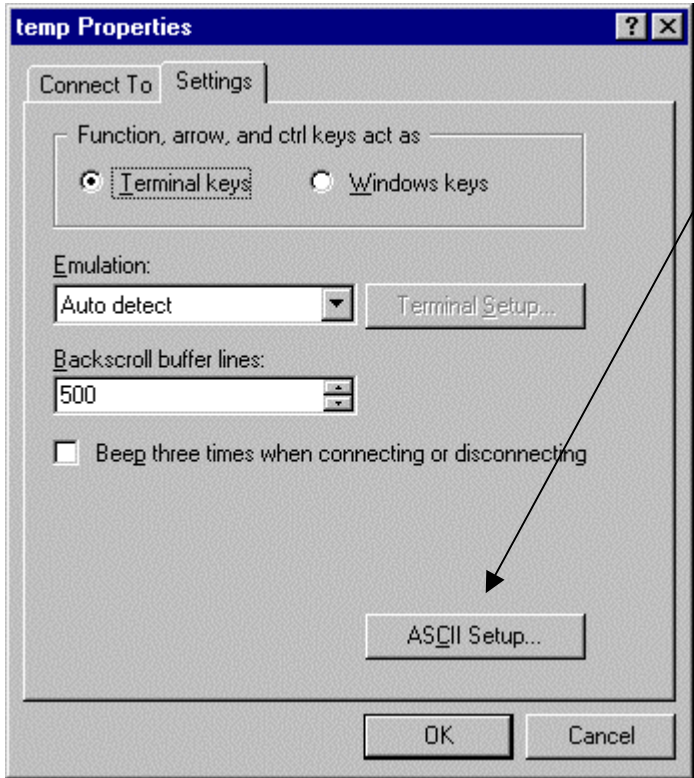
6. Set the COM port parameters. The following assumes that COM1 port is used and HyperTerminal is set to the 34970A's default configuration.



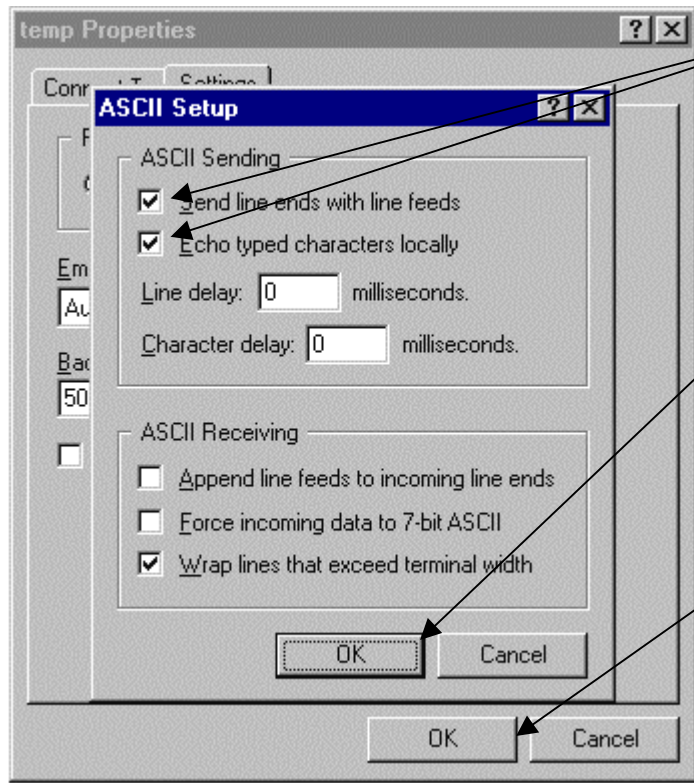
7. Setup the HyperTerminal, as follows:



D. Click on "ASCII Setup"



E. Select "Send line ends with line feeds" and "Echo typed character locally"

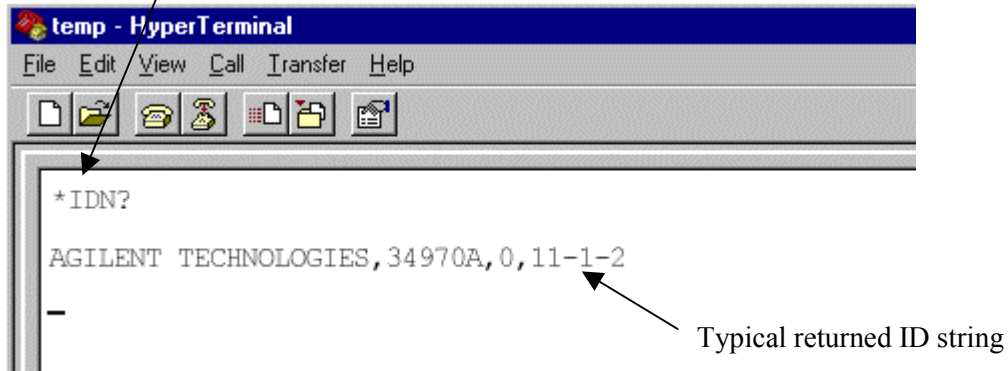


F. Click on "OK"

G. Click on "OK"

8. Type in "*IDN?" to make sure the instrument returns the ID string, as follows:

Type in "*IDN?" And then press the "Enter" button
(on the main keyboard, not the number pad)



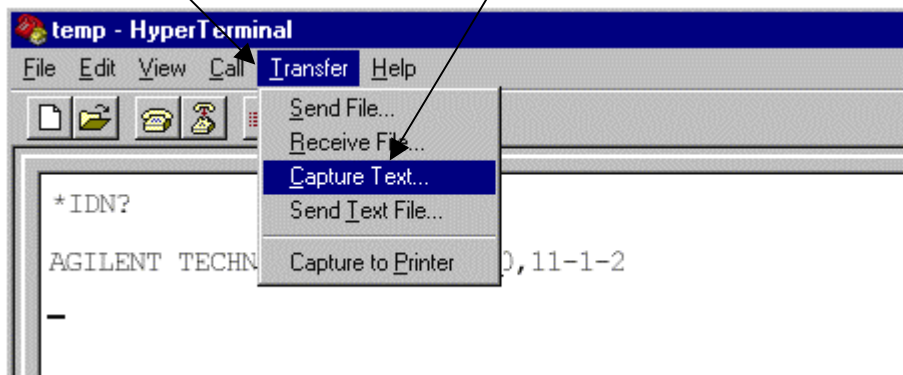
Storing Returned Data/Readings into a Text File

Returned data from an instrument can be stored into a text file using HyperTerminal. For example, the "FETCh?" command used by the 34970A and other instruments, returns the readings from instrument memory. During the time the data is placed into the HyperTerminal window, it can automatically be stored into a text file. The following procedure shows how to do that.

Setup the HyperTerminal to transfer the data to a file, as follows:

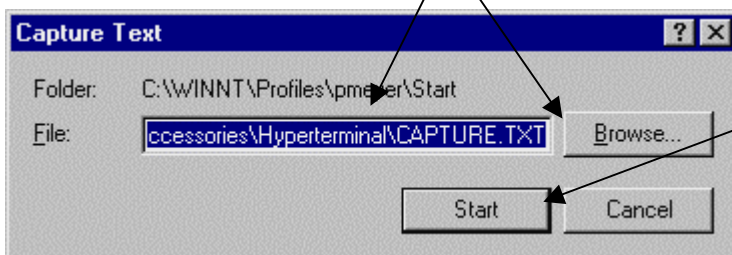
A. Click on "Transfer"

B. Click on "Capture Text"

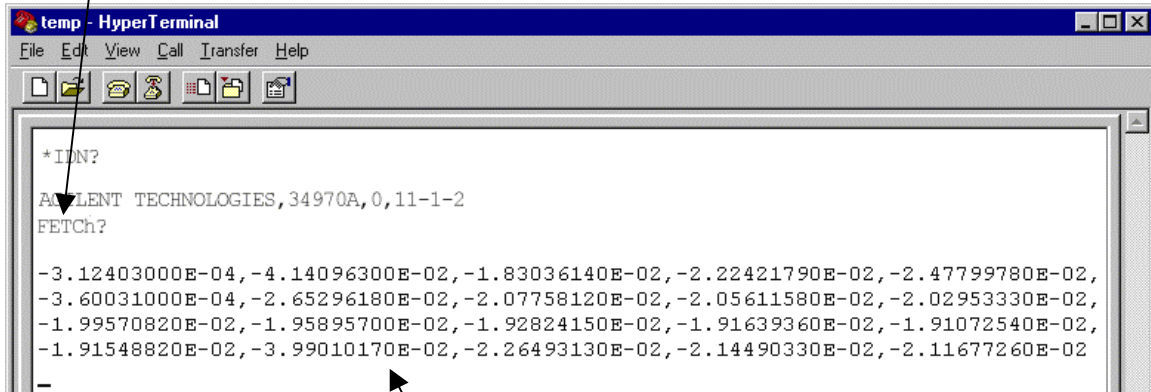


C. Select a Folder and File Name

D. Click on "Start"



E. Type in the "FETCh?" command, or any other command that is appropriate for your instrument



The returned readings are displayed and also stored into the test file.

Typical RS-232 Cable for General Purpose Instruments

The following shows the cable used for most of the Agilent General Purpose Instruments, like the 33120A, 33250A, 34401A, and 34970A. These instruments use a cable that can be ordered from Agilent's Parts Ordering department using part number: RS232-61601. For other instruments, check in the user's manual for the part number and connections.

