

Time Machine to Computer Interface Using HyperTerminal and Importing the Data into Excel

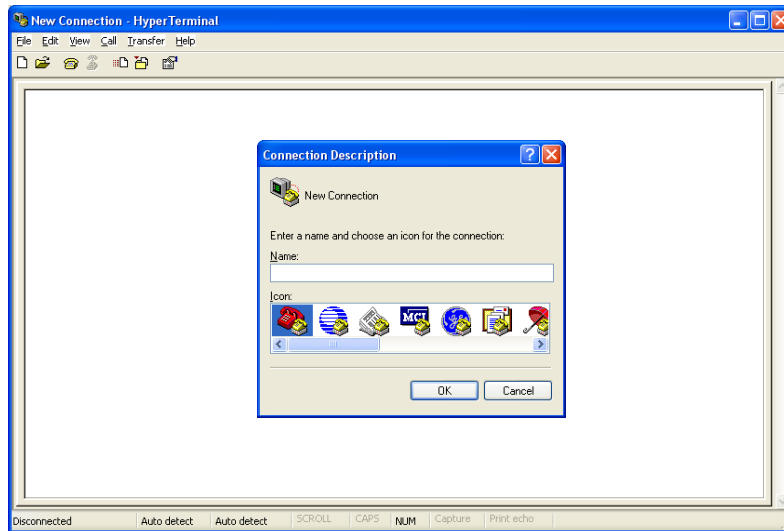
Hyperterminal is a standard Windows accessory located in the "Communications" folder. To see if it's installed on your PC, click the Start button then: Programs>Accessories>Communications - you should see a HyperTerminal folder if it's installed.

Hyperterminal allows you to receive data from your computer's com port. You can receive the data using Hyperterminal and store it in a file.

To invoke HyperTerminal*, click "Start" (lower left of your computer screen), then go through the following menus:

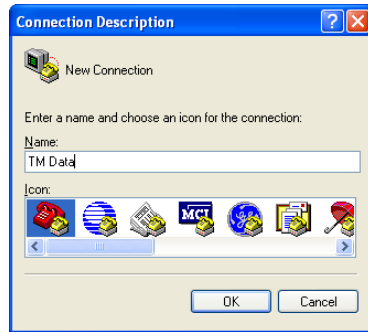
Programs > Accessories > Communications > HyperTerminal

When HyperTerminal is invoked, the following screen will appear:

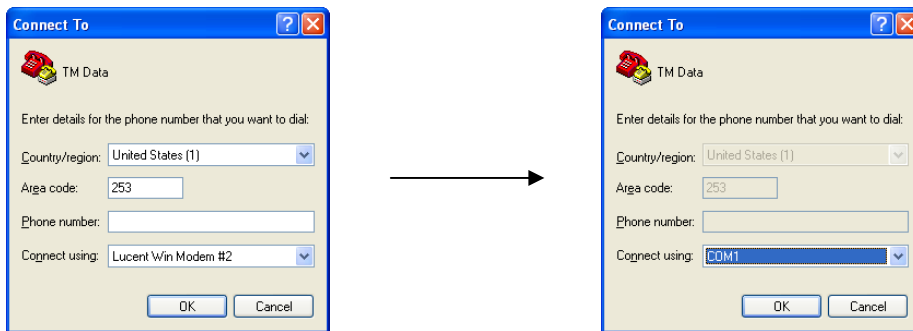


* If HyperTerminal is not on your system, then you will need to insert your Windows CD and install it.

Type in a connection name (such as “ TM Data”) and click OK.

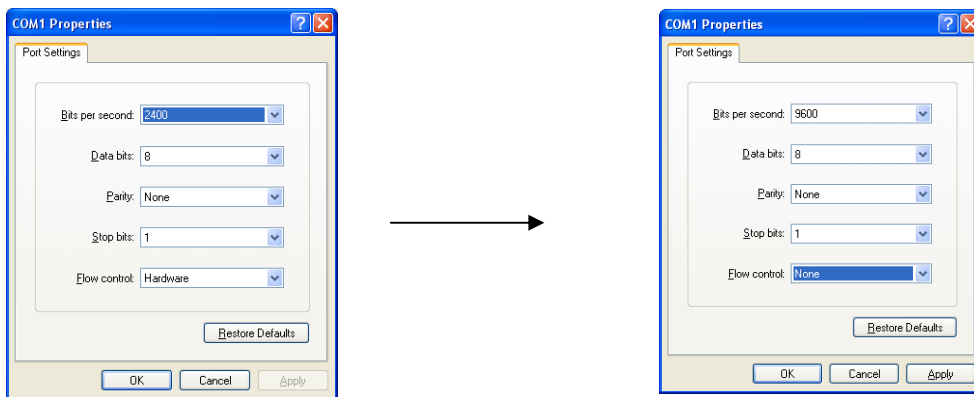


Now the following “Connect To” screen appears:



Click on the “Connect using” pull-down menu and select a com port. If you are connected to your computer’s com port then choose COM1. If you are using a Serial-to-USB adapter, then choose the com port number assigned to your adapter.* Click OK.

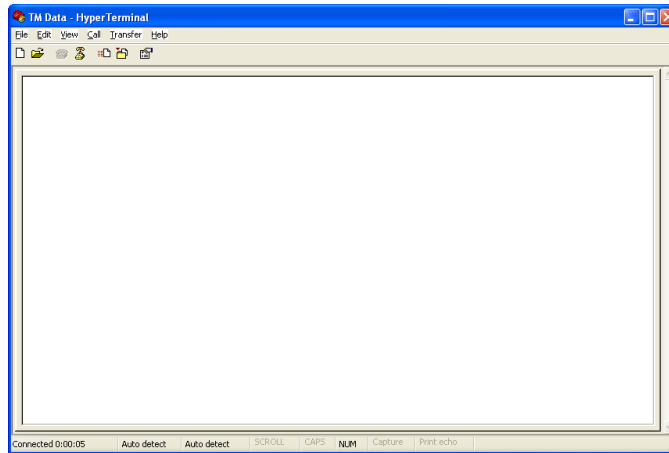
Now the following “COM Properties” screen appears:



Change the “Bits per second” to 9600. Set the other parameters to: Data bits = 8, Parity = None, Stop Bits = 1, Flow Control = None. Click OK.

* To identify your adapter’s com port assignment, look in the Device Manager under “ports” (Control Panel>System>Hardware>Device Manager). It will show your adapter with the assigned com port in parenthesis.

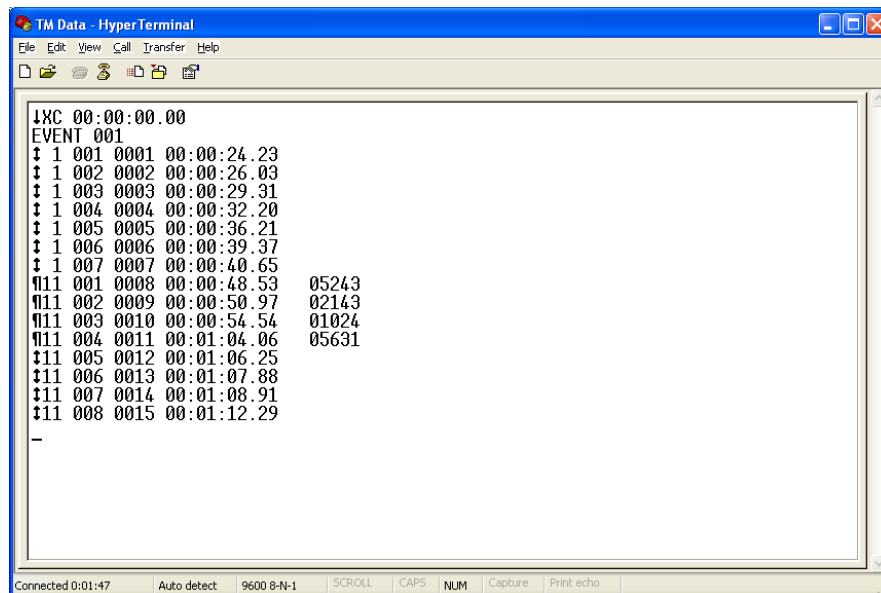
You will now have the HyperTerminal screen running as shown:



At the lower left of the screen, a clock should be running showing the elapsed time since the connection was started.

Turn on the Time Machine and verify that its RS232 settings match that of the HyperTerminal setup (9600 baud, 8 data bits, No Parity). You can do this by pressing the Setup key until the display shows “SET UP Parameter [RS232 PORT]”. Press ENTER key. Press SET UP key until the display shows “RS232 Operations [CHG LINE SETUP]”. Press ENTER key. Press the SET UP key until the display shows [SHOW SETTINGS] and press ENTER. If the settings don’t match, then press the SET UP key until you get to the parameter that needs to be changed, select it (by pressing ENTER) and change it by pressing SETUP, then press ENTER when it’s the correct value. Press CLEAR a few times to escape out of the RS232 menus.

Connect the interface cable from the Time Machine to your computer and start the timer. Input some times either from the keyboard or from a grip switch. You should see data appear on the screen similar to that shown below:



The 1st line is a "Start Line" indicating "Cross Country mode (XC) with a start time of 00:00.00. The 2nd line show the event number and following that is the data. The 1st column of data is an ID character, the 2nd column is the Chute#, the 3rd is the "Place-In-Lane", the 4th is "Overall Place" and after that is the finish time. If any bib numbers were entered, then they would show up after the finish time.

This data can be either "cut & pasted" to a file or stored to a file as it comes across. To store it, click Transfer>Capture Text. Enter in a file name (i.e.: data.txt) and click "Start". Now send some times from the Time Machine. When finished sending times, click Transfer>Capture>Stop. The Time Machine data has now been stored in the file you previously designated.

The stored data file can then be imported to Microsoft Excel or any other Windows application you choose. Data from the Time Machine can be received either "real time" during the race or it can be retransmitted (or reprinted) at any time later after the race. It is stored in non-volatile memory which protects the data from being lost even if it's rechargeable battery goes completely dead. In Hyperterminal, the screen will display the data as it comes across from the Time Machine. If you scroll up into the gray areas, you will see Time Machine data that was previously received - this is a storage buffer which you can cut-and-paste from. Note: you can paste this data into MS Notepad, save it as a file, then open it with Excel. In Excel you may need to reformat the "time" column to "h:mm:ss.00" in order to see it to a resolution of 1/100 sec.

To import the file to Excel:

- 1) Invoke Excel
- 2) Click File > Open
- 3) Change file type to "Text Files"
- 4) Use "Look in" to find your saved file and open it. Excel will pop up a "Text Import" window.
- 5) Choose the "Fixed Width" data type (if it isn't already set to that) and click Next>
- 6) The screen will show a "preview" of the data, click Next>
- 7) Click Finish the data will now be in Excel

When exiting HyperTerminal, it will ask you if you want to save the connection. If you select YES, a HyperTerminal setup file (TM Data.ht) will be created. The file will be located in the HyperTerminal Folder (Programs > Accessories > Communications > HyperTerminal [folder]). So the next time you want to connect the Time Machine using HyperTerminal, just click on the "TM Data.ht" icon. For convenience, you may want to create a link to "TM Data.ht" and save it to your Windows desktop or some other appropriate folder.