

DID YOU KNOW?

NO: 294

FEBRUARY 11, 2015

CYCLE DATA RETENTION USING A PC - SERIAL DATA SETUP PROCEDURE

NOTE

If the data collected by using the methods outlined in this Did You Know? is retained by the site, then federal regulations may apply to the captured data. If the site falls under the FDA regulations for Healthcare or Biopharmaceutical facilities, then FDA 21 CFR Part 11 requirements for electronic data records must be met. It is the site's responsibility to develop the standard operating procedures (SOP) and supporting software to meet the FDA's requirements for storing electronic records. The data provided via the RS232 serial port does not meet 21 CFR Part 11 requirements. The collected data is in standard ASCII (text) format and is not encrypted.

Overview

The output from any PRIMUS control system with an RS232 output to the printer can be captured to a personal computer (PC) using the Microsoft Windows standard communications accessory, HyperTerminal.

Although there are several different third party programs available to monitor RS232 serial ports which could be used, this DYK concentrates on using the standard program (HyperTerminal) available to anyone using the Microsoft Windows Operating System (XP/2000/VISTA/WIN 7).

Connecting to a PRIMUS Control Platform

Facilities that ordered controls with the optional second RS232 serial port can simply use this second connection to transfer data to a PC using a standard serial cable.

Facilities with PSS5 controls have a second set of pins on the SBC 196 board which can be used, even if the second serial port option was not purchased. To utilize this second port requires a serial cable with one end modified to connect to the available header pins for the second RS232 output.

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If there is only one RS232 serial port available on the controls, (normally dedicated to the printer), another end user option is to add a cable splitter to the printer cable to add an additional RS232 port.

For controls with more than one printer attached, one printer can be disconnected and its cable used for the connection.

Cable Requirements

A standard 9-pin serial cable, no longer than 100 feet, can be used for data transfers between the sterilizer and a PC. One side must be a standard DB-9 female connector which will be connected to a serial port on the PC, typically COM 1. The other end will be connected to the controller using a standard RS232 female connector (for end user customers who have ordered the extra RS232 port, or have added a cable splitter) or a pin-style socket connector or via the screw-down terminals on the control board (depending on the different controls).

Once the terminal emulation program (HyperTerminal) is set up properly, whenever the user starts the sterilizer cycle, data will be written to the computer as well as the printer. The data can then be saved to a file on the PC.

How to Configure HyperTerminal

The HyperTerminal program is accessed via the Programs Menu on the PC. Follow the steps below to set up HyperTerminal:

1. Log onto the PC and wait until the standard desktop screen is displayed
2. Once the desktop screen is displayed, use the mouse pointer to left click once on the START button located on the taskbar

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3. The START button will pop up the Start menu
4. Select the "All Programs" label by placing the mouse pointer on the "All Programs" label (the Programs menu will pop up) and left clicking once
5. The Programs menu will stay on the screen
6. Select "Accessories" from the Programs menu by placing the mouse on the "Accessories" label (a pull right menu will appear) and left clicking once
7. The Accessories menu will stay on the screen
8. Select "Communications" from the Accessories menu by placing the mouse pointer on the "Communications" label (a pull right menu will appear) and left clicking once
9. The Communications menu will remain on the screen
10. Select "HyperTerminal" by placing the mouse pointer on the "HyperTerminal" label and left clicking once (See Figure 1 Navigating to HyperTerminal Using the Desktop Menus)
11. The HyperTerminal program will open on the screen (See Figure 2 HyperTerminal Start Screen). A "Connection Description" dialog box will open (See Figure 3 Type in a Connection Name)
12. Enter a name for the new connection in the dialog box, and then select the "OK" button. The "Connection Description" dialog box will close and the "Connect To" dialog box will open (See Figure 4 Set Connection to Match Serial Port Used on the PC)

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13. Select the serial communications port being used on the PC using the drop down menu box. Typically, this is COM 1. Select the "OK" button. The "Connect To" dialog box will close and the "COM1 Properties" dialog box will open (See Figure 5 Set Baud Rate to 9600 and Leave Other Data As Is)
14. Select the correct settings for the port. Set the baud rate to be 9600 using the drop down menu box. Leave the other default values alone (8, None, 1, Hardware). Select the "Apply" button and then the "OK" button. The "COM1 Properties" dialog will close and a ready to receive data screen will be displayed (See Figure 6 HyperTerminal Screen Ready to Accept Data)
15. Once the sterilizer is started, data will be received by HyperTerminal and displayed on the screen (See Figure 7 HyperTerminal Screen Accepting Data from the Sterilizer)
16. Once the run is over, the data can be saved to a file by using the HyperTerminal tool bar "File" drop down menu. Place the mouse on the "File" label in the upper toolbar and the File drop down menu will be displayed (See Figure 8 Selecting the "Save As" Function)
17. Select "Save As" and the "Save As..." dialog box will open (See Figure 9 Saving Data to a File). Enter a file name to be used to save the data and then select the "Save" button. The data is now saved under that file name
18. The default buffer for HyperTerminal is set for 500 lines. If this is not sufficient, use the File menu and select the "Properties" label which will open the "Properties" dialog box where the various control parameters for HyperTerminal can be modified



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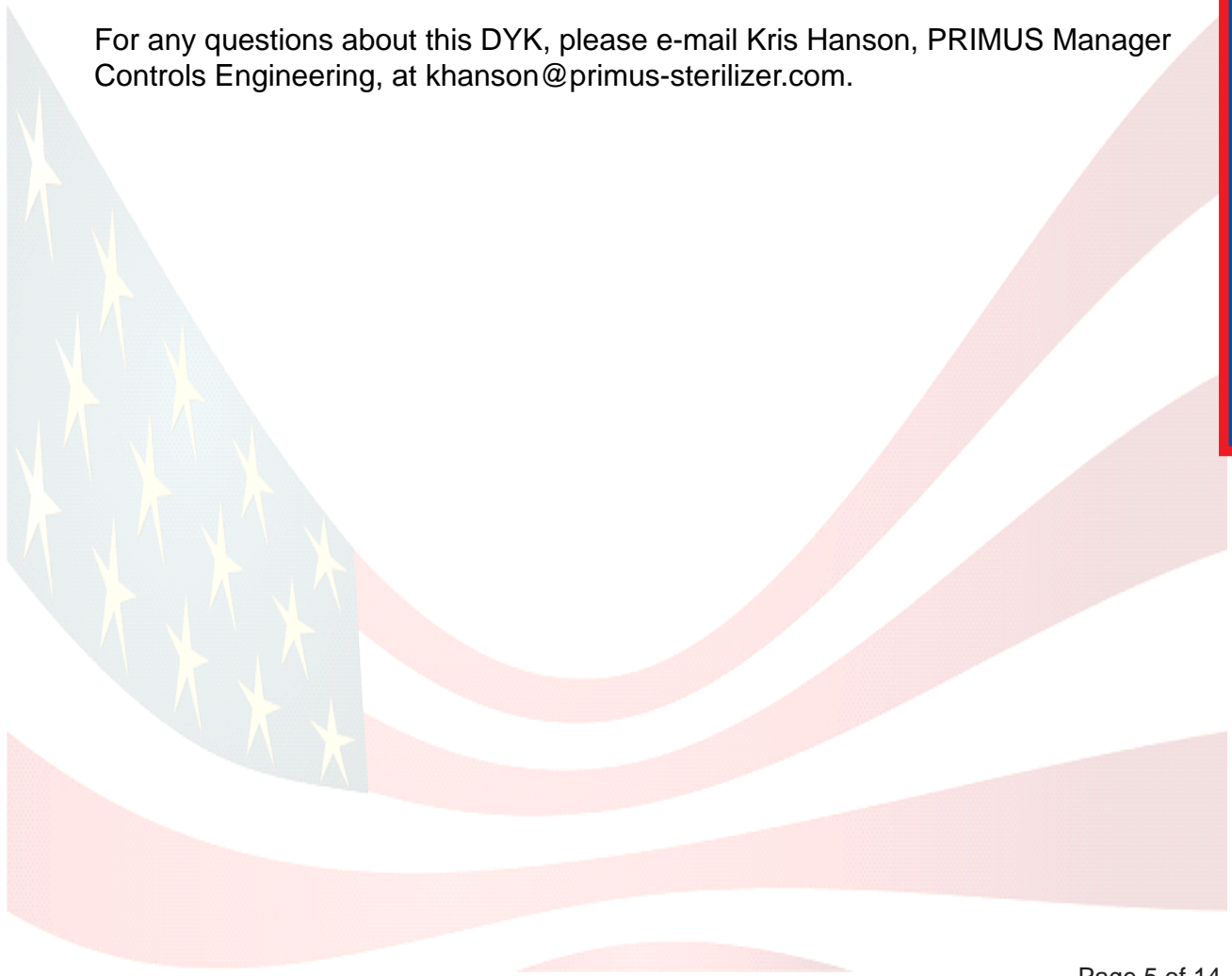
CYCLE DATA RETENTION USING A PC - SERIAL DATA SETUP PROCEDURE (CONTINUED)

19. To stop receiving data, simply click on the "Call" label in the upper toolbar and select "Disconnect"

Help is available for HyperTerminal. There are various resources on the Internet which can be used to learn about HyperTerminal's various functions and examples of how it can be set up.

PRIMUS Contact

For any questions about this DYK, please e-mail Kris Hanson, PRIMUS Manager Controls Engineering, at khanson@primus-sterilizer.com.



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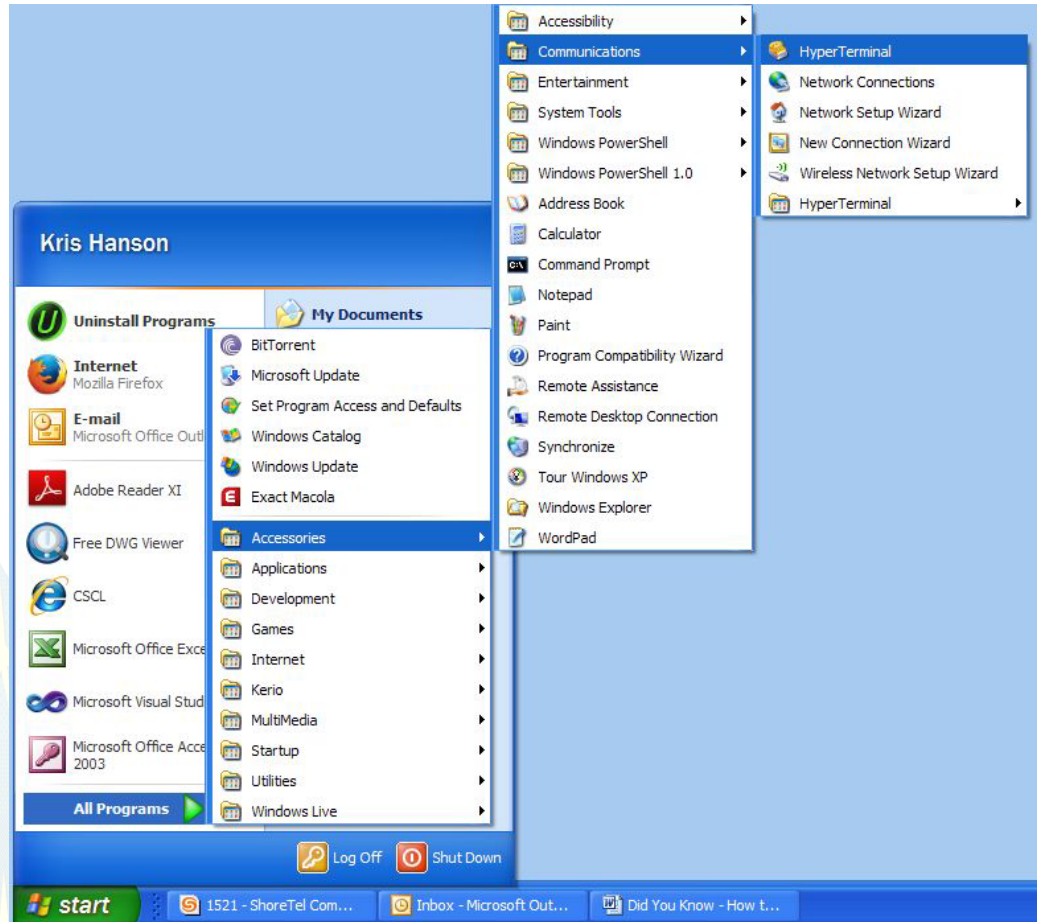


Figure 1 Navigating to HyperTerminal Using the Desktop Menus



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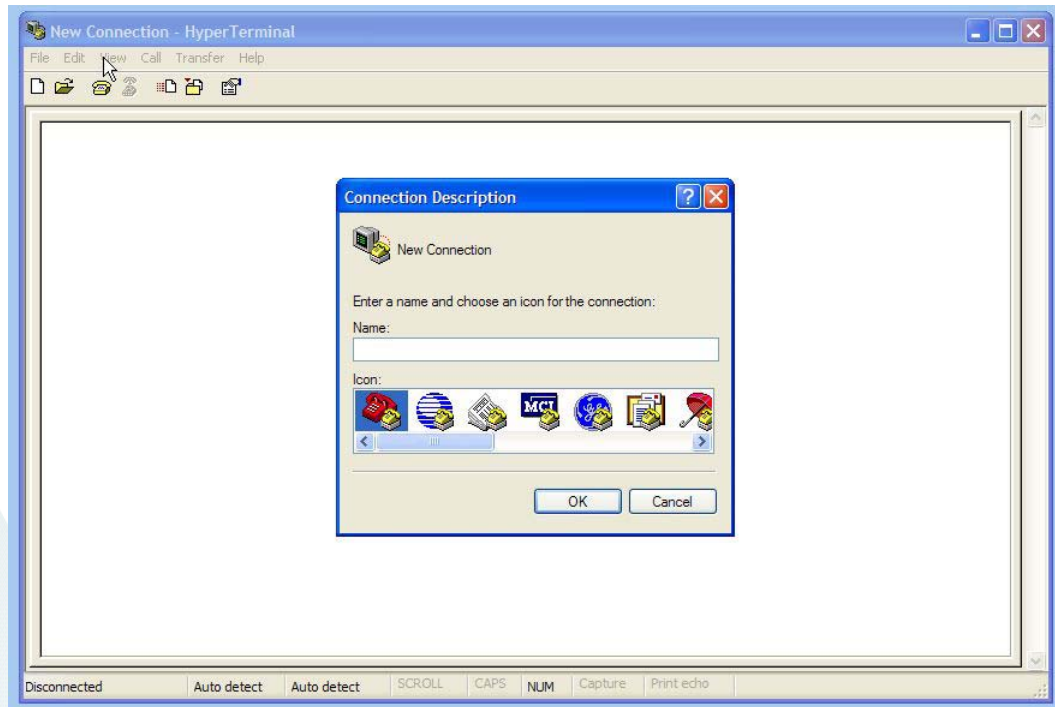


Figure 2 HyperTerminal Start Screen



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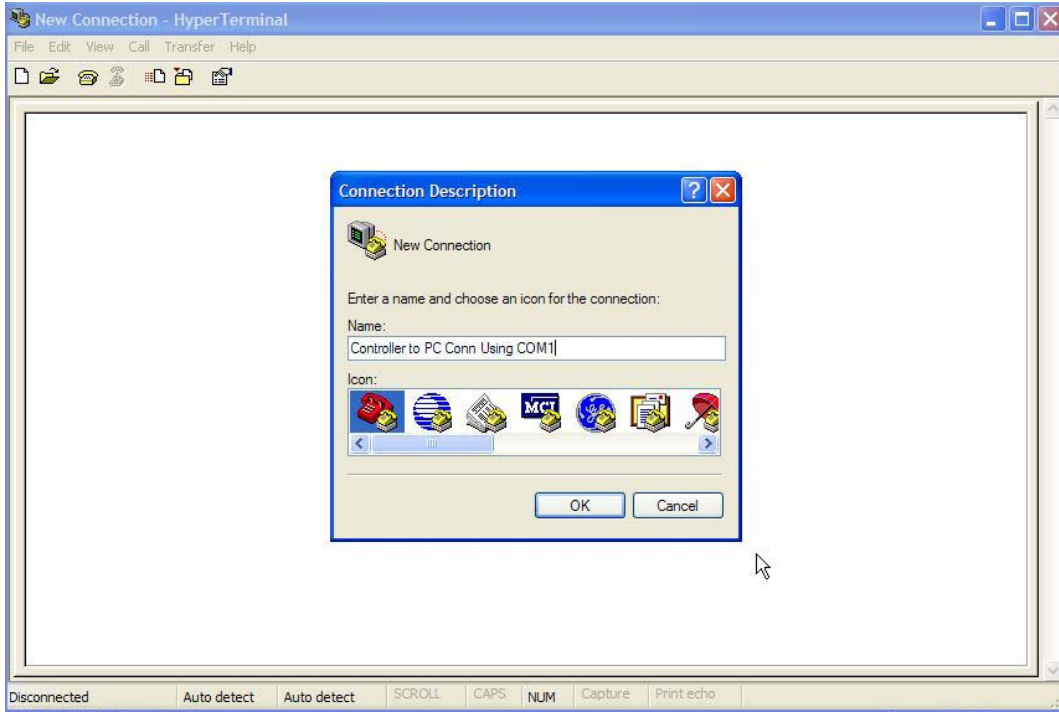


Figure 3 Type in a Connection Name



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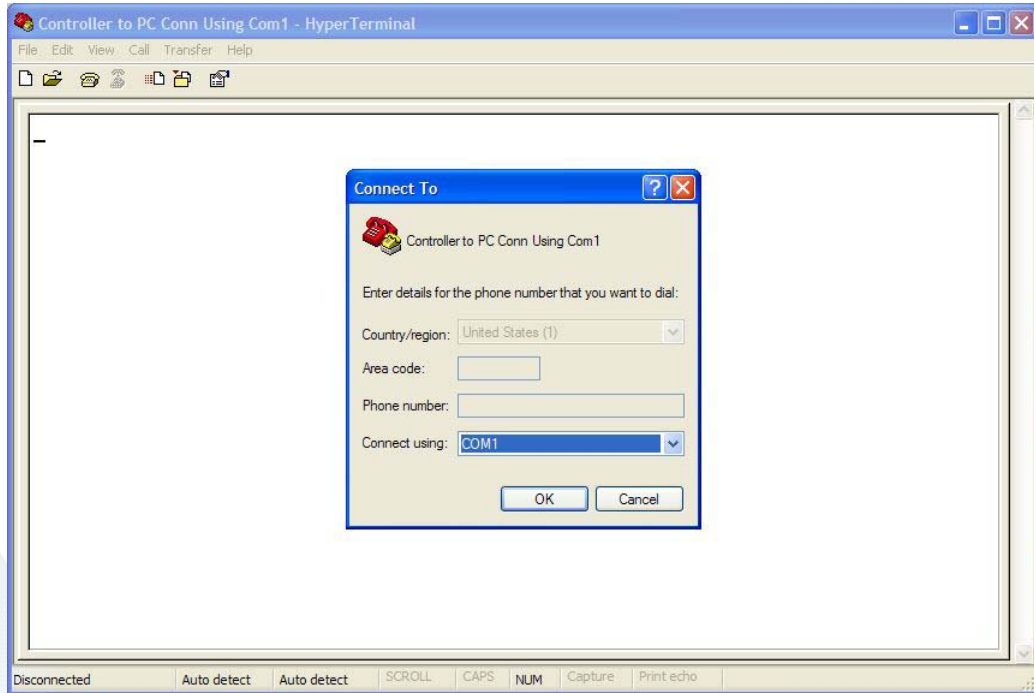


Figure 4 Set Connection to Match Serial Port Used on the PC



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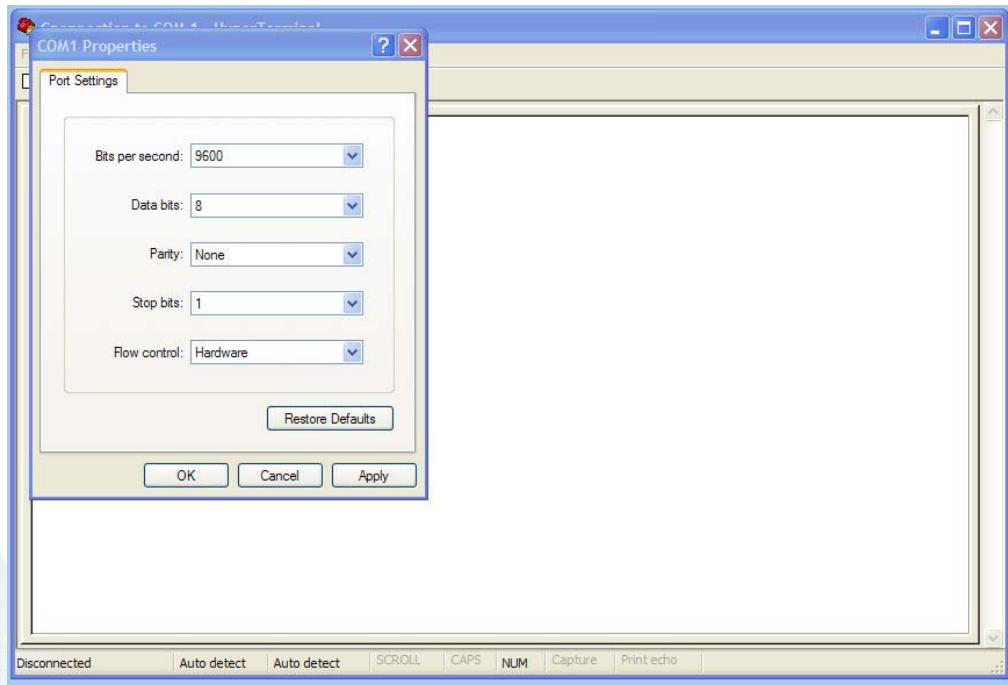


Figure 5 Set Baud Rate to 9600 and Leave Other Data As Is



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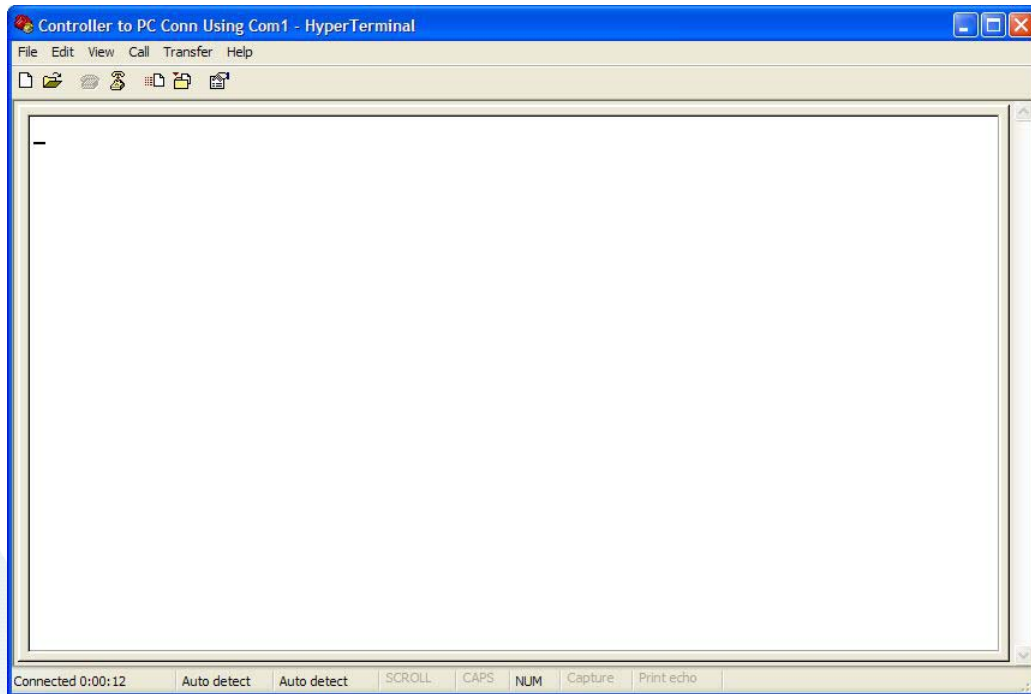


Figure 6 HyperTerminal Screen Ready to Accept Data

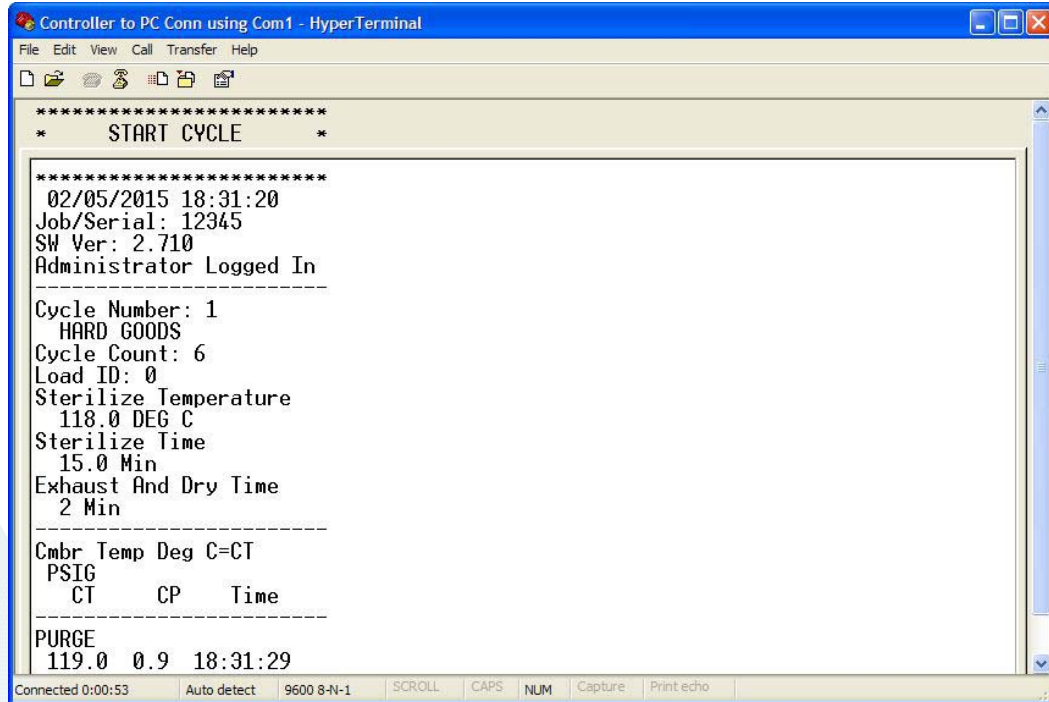


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The screenshot shows a HyperTerminal window titled "Controller to PC Conn using Com1 - HyperTerminal". The window displays the following text:

```
*****  
*   START CYCLE   *  
*****  
02/05/2015 18:31:20  
Job/Serial: 12345  
SW Ver: 2.710  
Administrator Logged In  
-----  
Cycle Number: 1  
HARD GOODS  
Cycle Count: 6  
Load ID: 0  
Sterilize Temperature  
118.0 DEG C  
Sterilize Time  
15.0 Min  
Exhaust And Dry Time  
2 Min  
-----  
Cmbr Temp Deg C=CT  
PSIG  
CT      CP      Time  
-----  
PURGE  
119.0  0.9  18:31:29  
-----  
Connected 0:00:53  Auto detect  9600 8-N-1  SCROLL  CAPS  NUM  Capture  Printecho
```

Figure 7 HyperTerminal Screen Accepting Data from the Sterilizer



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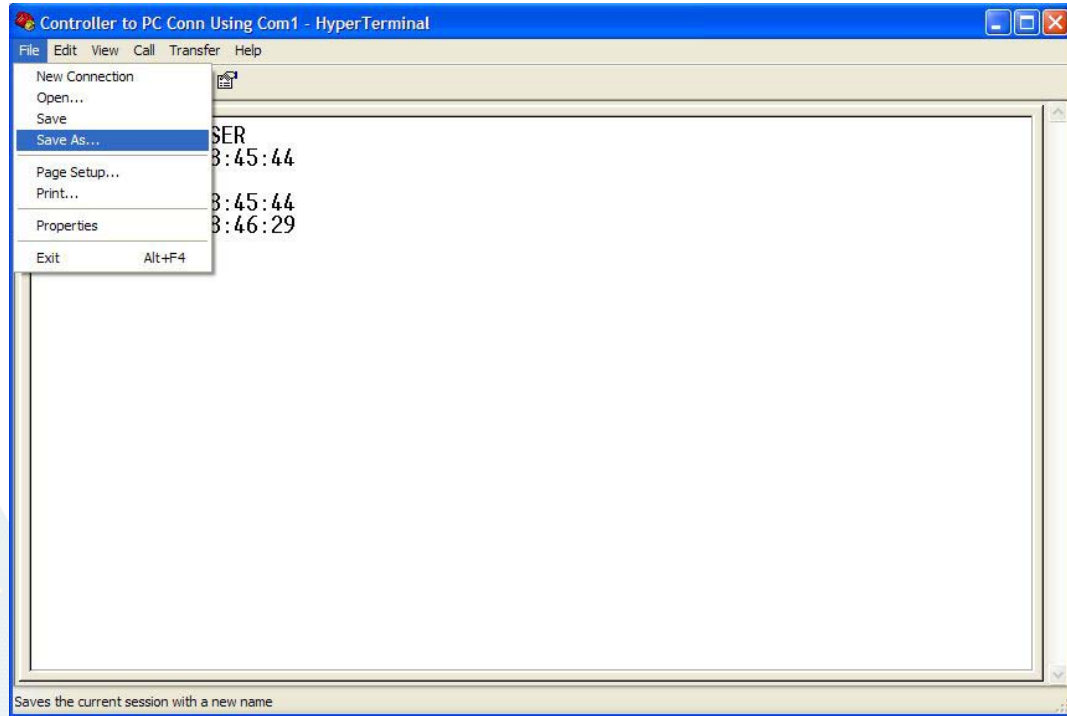


Figure 8 Selecting the "Save As" Function



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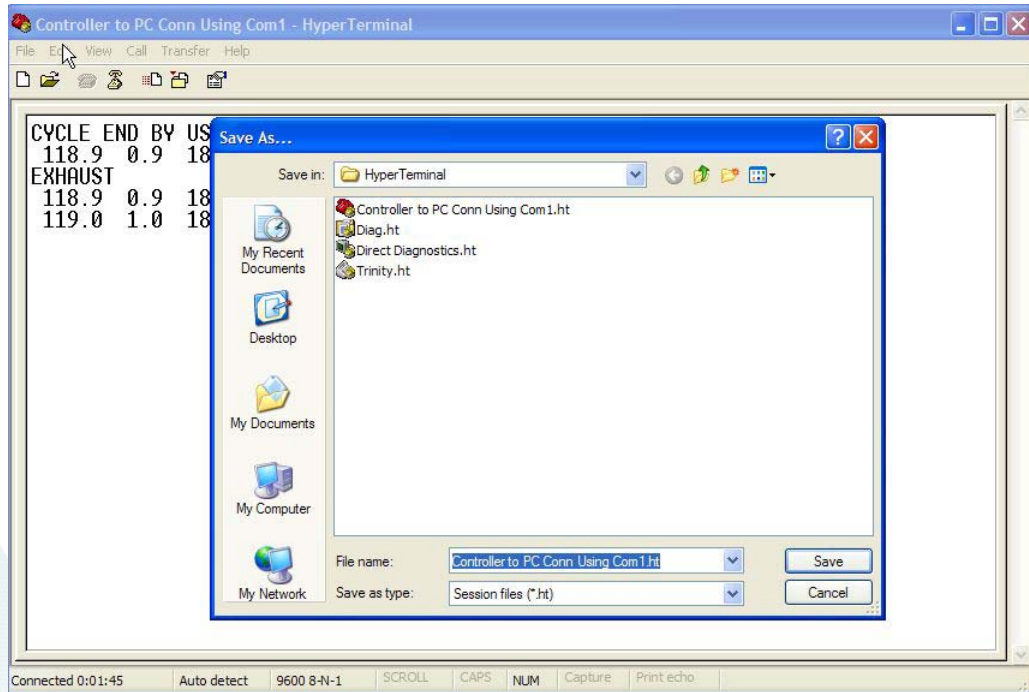


Figure 9 Saving Data to a File



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