

The Problem

In certain manufacturing situations, it may be desirable, or necessary, to automatically collect the information produced during product testing such as total parts tested, number of failures, and readings at failure.

Some test instrument manufacturers expect their customers to purchase special software programs made specifically to record information from their instruments. These data collection packages can be quite complicated and represent one more program test engineers must figure out before they can begin to collect and use data from their test equipment.

RS-232 or Ethernet connectivity permits logging test results without expensive or complicated software. Thousands of results can be stored on a computer hard drive or a USB drive.

Test engineers are free to use the spreadsheet program with which they are most familiar. There's nothing new to buy or figure out.

If the user has Microsoft Windows® and a spreadsheet program, they can start logging data quickly and without time-consuming programming. Data can be reported in whatever format users like best.

How It Works

Data collection works like this:

- The leak tester is attached to the computer by way of RS-232 or Ethernet ports provided on the tester and the computer. A common null-modem cable or Ethernet cable is used to make the connection.
- Test results are sent to the computer in a simple delimited string. (Figure 1)
- The string is user-configurable and may include a variety of entries such as program number, test value, units, and results (pass or fail).
- Using the terminal accessory software included with Microsoft Windows®, tester data is sent to the computer and may be directed to a file on a local or network drive, a USB memory stick, or sent directly to a printer.
- Data can be imported by any Windows® spreadsheet program and then later manipulated for generating reports. Macros can also be written to automatically import the information to applications.

147 9.937	12/04/09 09:35:15 psi 0.078	1 psi	Pressure Decay Pass	1
147 9.963	12/04/09 09:35:31 psi 0.025	2 psi	Pressure Decay Pass	1
147 9.937	12/04/09 09:36:11 psi 0.077	1 psi	Pressure Decay Pass	1
147 9.964	12/04/09 09:36:27 psi 0.027	2 psi	Pressure Decay Pass	1
147 9.937	12/04/09 09:37:23 psi 0.077	1 psi	Pressure Decay Pass	1
147 9.963	12/04/09 09:37:39 psi 0.025	2 psi	Pressure Decay Pass	1
147 9.938	12/04/09 09:38:17 psi 0.075	1 psi	Pressure Decay Pass	1
147 9.963	12/04/09 09:38:33 psi 0.026	2 psi	Pressure Decay Pass	1

Figure 1
**Sample Tab-Delimited Pressure Decay
Result String**

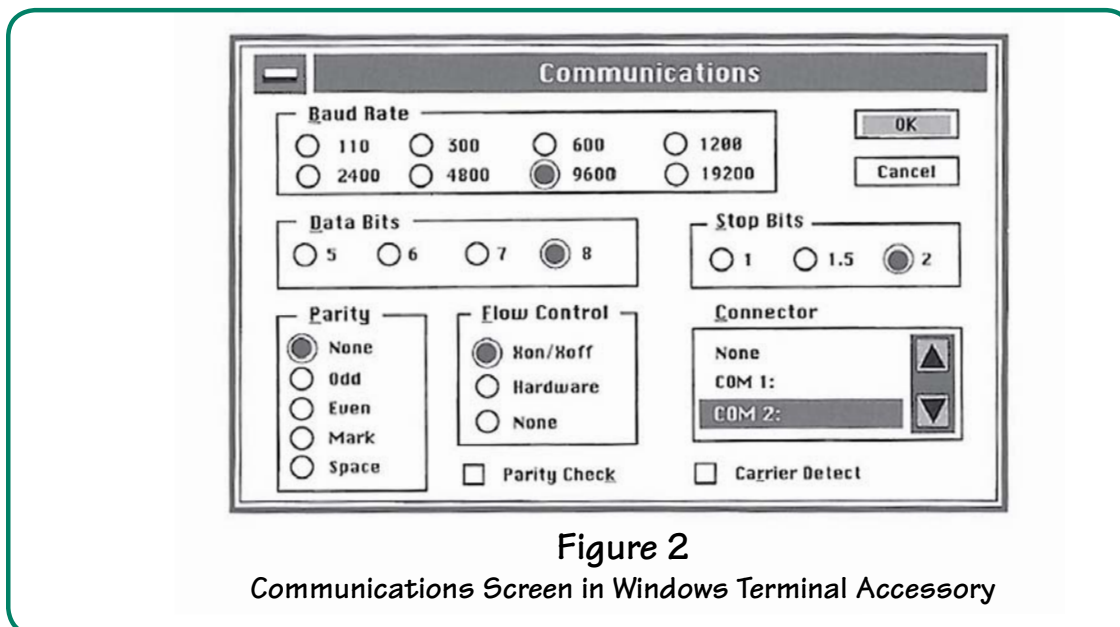


Figure 2
Communications Screen in Windows Terminal Accessory

Terminal Setup

1. Look in the Windows accessory group and find the accessory called "HyperTerminal."
HyperTerminal is a communication protocol program that allows setting parameters to send and receive data over the computer's serial communication port (COM).
2. Go to settings in the top menu bar and select "Communications." A typical setup window will appear on your screen similar to that shown in Figure 2.
3. In the Communications setup window, you can adjust the various settings needed for correct signal transmission and reception. The settings on the tester must match the settings on your computer. Set the baud rate and data bits on your computer to match the tester.

Stop bits can be set to either 1 or 2
Parity must be none
Flow control must be Xon/Xoff

4. The final step in terminal setup is selecting the communication port you'll be using to connect to the tester. It will typically be set to "COM 2".
5. After you've finished setting the terminal parameters, you can save the settings in a file with a name such as SPRINT.TRM.
6. The tester automatically sends its results. There's no need to have the computer request the results.
7. In a typical situation, the tester could be set to send the program number of the test, then a tab, the test value, a tab, the engineering units, a tab, and finally the result (either pass or fail) and a carriage return and line feed.
8. After the results are sent to a file, it may be imported to a spreadsheet program for further formatting and reporting.

Uson L.P.

8640 N. Eldridge Parkway
Houston, Texas 77041
USA

Phone: +1-281-671-2000

Fax: +1-281-671-2001

info@uson.com

www.uson.com