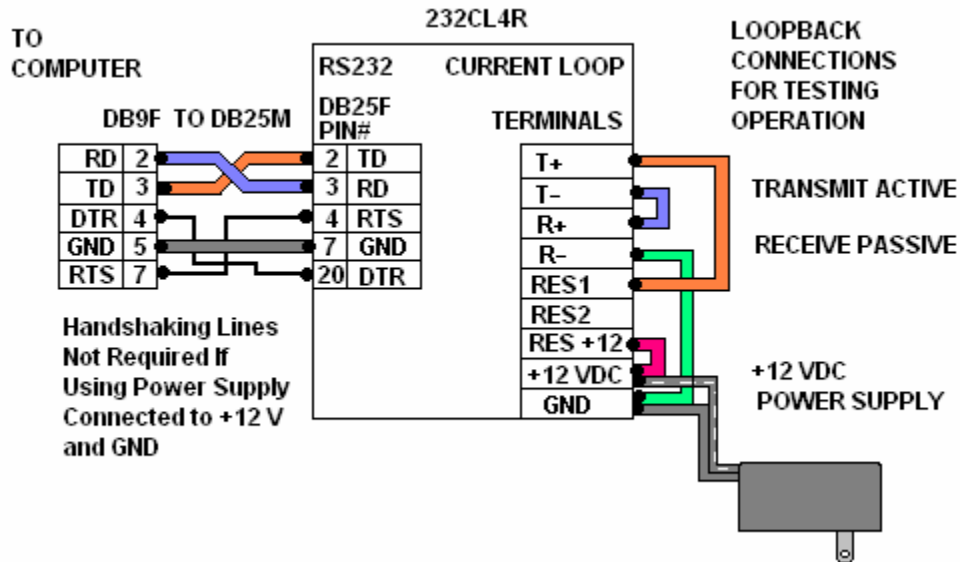
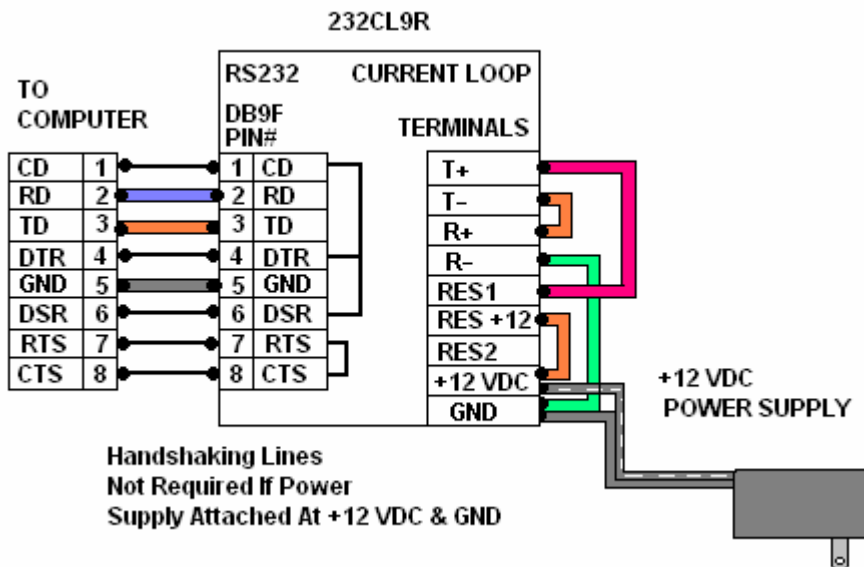


**Q: How Can I Check My Current Loop Converter To Verify Operation?**

**A:** Make the Current Loop side connections to power the converter, and make the Current Loop Transmit active, and the Receive Loop passive as in figures 1, 2, 3 or 4.



**FIG. 1: 232CL4R LOOPBACK**



**FIG. 2: 232CL9R LOOPBACK**

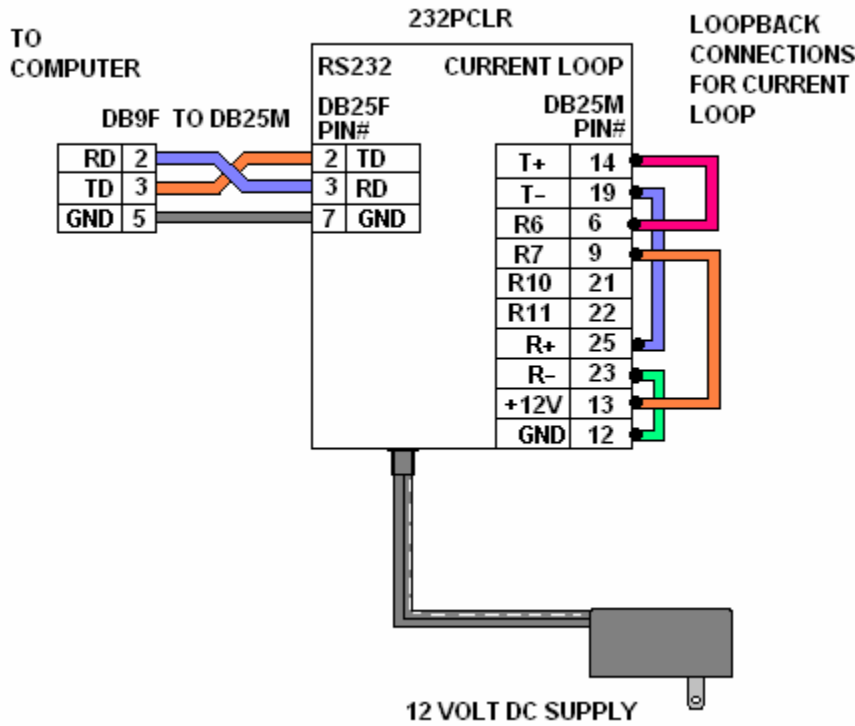


FIG. 3: 232PCLR LOOPBACK

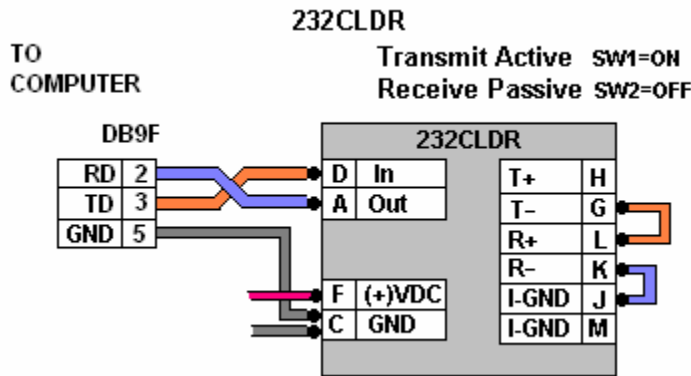


FIG. 4: 232CLDR LOOPBACK

**Windows 95/98/SE/ME/2000/XP or NT 4.0:** Use HyperTerminal, See Start, Programs, Accessories, Communications. If you use HyperTerminal, set Flow Control to None, File, Properties, Settings, ASCII Setup, for Echo Typed Characters locally. When loopback is working, each character will be repeated twice. Press F and G alternately to see double characters.

ComTest from our Website can be used to check serial ports assigned Com1 or higher under Windows. It can access Com ports 1-8, including USB serial devices. ComTest can open two different ports to check data from one to another or set DTR & RTS high to power a port powered device.. *ComTest Features are listed starting on page 4 of this FAQ.*

**MS-DOS:** Use SimpTerm from our Website to check motherboard or ISA based serial ports under DOS. Do not use SimpTerm with Windows. The procedure is similar, but operating details are different.

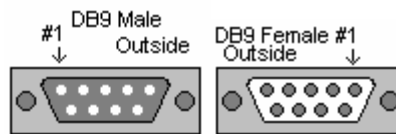
**CURRENT LOOP - DIGITAL  
 LOOPBACK TESTS**

## Download & Install The Program

1. Before starting, make a Directory Folder (such as Test) on your hard drive to use when downloading the program.
2. Go to the B&B Electronics Mfg. Co. Website. <http://www.bb-elec.com>
3. Select Tech Notes
4. Go down the page to Software Tools.
5. Select ComTest
6. Download into the directory (Test) you previously made.
7. Quit your web browser.
8. Open the directory (Test) you downloaded to.
9. Double-click com\_test.exe
10. After file extraction is done, close the DOS window.
11. Double-click Setup within the Test folder.
12. Click Next, then Click Next.
13. Select destination directory. (default is C:\Program Files\B&B Electronics)
14. Click Next.
15. Click Finish button after "Installation Complete" message.

Note: If operating under Windows, a Com port number must be assigned by Windows, and it must not be used by a serial mouse or open by another application.

## MAKE DATA CONNECTIONS



Note: DB9 & DB25 pin numbers are molded into the connector. To locate pin #1 on the male connector hold the connector horizontally with the row with the most pins on top, the upper leftmost pin is #1. On a female connector, the upper rightmost is #1.

## USING COMTEST TO CHECK OPERATION

1. Make the Test Connections for Loopback.
2. Start ComTest from your Programs menu under B&B Electronics, Communication Tools.
3. Select the Com port number the device is connected to. ComTest will only show Windows based Com ports that are not in use. If another program is using the port, it will not be available. Please close down any other programs that may be accessing the port. If another program is using the same IRQ number that port is using, you will not be able to use both ports at once unless both devices are PCI or USB based.
4. Accept the default baud rate, data bits, parity, stop bits.
5. Type some characters in the upper window. The same characters should appear in the lower window. Note that the enter key value will be shown in brackets as <0D>

If data is shown in the lower window when typed in the upper, the Converter or port is working.

If you use HyperTerminal, set Flow Control to None, File, Properties, Settings, ASCII Setup, for Echo Typed Characters locally. Each character will show twice when pressed during loopback.

**CURRENT LOOP - DIGITAL  
LOOPBACK TESTS**

### **B&B Electronics ComTest – A Serial Test Program For Port & Converter Testing With Windows**

- A Test Program for Simple Checks of Serial Ports, Serial Converters, Serial DAQ Devices. Works with USB Serial Converters & ISA or PCI Serial Cards
- Serial Port Access under Windows 95/98 and NT 4.0 – Com1-Com8 or above.
- Dual Windows show typed transmit characters in separate window from received characters.
- Transmit & Receive Activity Indicators
- Unprintable Characters Shown in Hex – 2 Digits within Left & Right Angle Brackets.
- Visual Indication of Handshaking Lines – DTR DSR DCD and RTS CTS. (Red = Hi)
- Option for Setting DTR or RTS lines high or low for port powered devices or RTS Control.
- Option for Repeat Mode – last character or Function Character Sequence is repeated until set off.
- Option for Defining Strings to Output Using F1-F12 Keypress – Useful for DAQ Checkout
- Option for Sending Unprintable Characters – Alt + 3 digit keycode, then release Alt.
- Configuration Settings:
  - Baud Rates 150, 300, 600, 1200, 2400, 9600, 19.2, 28.4, 57.6, 115.2K (9600 default)
  - Parity: None, Odd, Even, Mark, Space (None is default)
  - Data Bits: 5, 6, 7, 8 (8 default)
  - Stop Bits: 1, 1.5, 2 (1 default)

### **Start ComTest**

1. Connect the device to check to the serial port, or if performing a loopback test, make connections.
2. Select Start, Programs, B&B Electronics, ComTest.
3. (If you get Win Port window showing shared modems, click Cancel)
4. ComTest Starts with a Select Port Window.
5. Select the Com port to access or test. (The drop down box shows available ports not in use).
6. Click Ok. Configure Port is shown.
7. Select the needed baud rate, parity, data bits, stop bits. (Defaults are common settings).
8. Type characters – they will appear in the upper window.
9. If performing a loopback test, observe the received characters in the lower window.
10. If sending commands to a serial DAQ device or Smart Switch, enter the control strings and observe the device response or characters returned in the lower window.

### To Send Non-printable Characters Using Com Test

You can send non-printable control characters in a control string by pressing the Alt key and while holding it down, enter the 3 digit character code using the separate numerical keypad on the computer. For example, Esc=27. Press and hold Alt, then press 0 2 7 then release Alt.

For example: The Command for the 232SDA12 digital output is !0SO and bits. Hold Alt and enter 0 0 1 or 0 0 2 or 0 0 4 to set each bit high. Enter 0 1 6 or 0 6 4 to set the 3 bits low. ComTest cannot send the character value of zero this way.

### Defining Strings To Send Using F1 to F12 Keys

1. Select Options, Strings, then under Key, select the F1 to F12 radio button.
2. Highlight and Delete the default String.
3. Enter the characters to be sent.
4. Select another key to define or OK to close the Window.

Press the F1-F12 key to send the characters.  
Observe the response.

### Setting RTS or DTR High or Low

Select Options on the menu bar.

Select RTS and/or DTR to set Hi. Select to unchecked mode to set Lo.

### Exit

When testing is completed, close the program.

### Removing Com Test

Close the program.

Select Settings, Control Panel, Add/Remove Programs, Select ComTest.

ComTest will be removed from the Program items.