

## Performing a Loopback Test on the Spectre Cellular Router (v2)

### Please Note

- This procedure will explain how to perform a RS-232 loopback test using the DB9 to RJ45 cable (Part Number KD-2) that comes with your Spectre Cellular Router (v2).
  - If you do not have this cable, then you can pinout a pigtail using an Ethernet cable. Link to the cable pinout can be found here → <http://goo.gl/MwM9B3>
  - This procedure was completed using model RT3G-302.
  - Please power up your unit and connect the KD-2 to your router.
  - For this test, I will be using PuTTY. However, you can use any Terminal Emulator Program.
1. Connect to the cellular router's webpage. If it is still set at default, then the IP address will be 192.168.1.1. Once the page loads, you should be in the General Status section.
  2. On the left side of the web page, there is a configuration section. Please click on the appropriate Expansion port for your router. More specifically, there should be a label on the back of the router that tells you what expansion module is in what port. For example, the label on the router I am using for this test tells me port 2 is the RS-232 port. Thus, I will open Expansion port 2.

# SPECTRE 3G UMTS/CDMA Router

Status	Expansion Port 2 Configuration
<a href="#">General</a> <a href="#">Mobile WAN</a> <a href="#">Network</a> <a href="#">DHCP</a> <a href="#">IPsec</a> <a href="#">DynDNS</a> <a href="#">System Log</a>	<input checked="" type="checkbox"/> Enable expansion port 2 access over TCP/UDP HW flow control not supported
<b>Configuration</b>	Port Type: <input type="text" value="RS-232"/>
<a href="#">LAN</a>	Baudrate: <input type="text" value="9600"/>
<a href="#">VRRP</a>	Data Bits: <input type="text" value="8"/>
<a href="#">Mobile WAN</a>	Parity: <input type="text" value="none"/>
<a href="#">PPPoE</a>	Stop Bits: <input type="text" value="1"/>
<a href="#">Backup Routes</a>	Split Timeout: <input type="text" value="20"/> msec
<a href="#">Firewall</a>	Protocol: <input type="text" value="TCP"/>
<a href="#">NAT</a>	Mode: <input type="text" value="server"/>
<a href="#">OpenVPN</a>	Server Address: <input type="text"/>
<a href="#">IPsec</a>	TCP Port: <input type="text" value="4000"/>
<a href="#">GRE</a>	Inactivity Timeout *: <input type="text"/> sec
<a href="#">L2TP</a>	<input type="checkbox"/> Reject new connectons
<a href="#">PPTP</a>	<input type="checkbox"/> Check TCP connection
<a href="#">DynDNS</a>	Keepalive Time: <input type="text" value="3600"/> sec
<a href="#">NTP</a>	Keepalive Interval: <input type="text" value="10"/> sec
<a href="#">SNMP</a>	Keepalive Probes: <input type="text" value="5"/>
<a href="#">SMTP</a>	<input type="checkbox"/> Use CD as indicator of TCP connection
<a href="#">SMS</a>	<input type="checkbox"/> Use DTR as control of TCP connection
<a href="#">Expansion Port 1</a>	* can be blank
<b>Expansion Port 2</b>	<input type="button" value="Apply"/>
<a href="#">USB Port</a>	
<a href="#">Startup Script</a>	
<a href="#">Up/Down Script</a>	
<a href="#">Automatic Update</a>	

3. For this test, I have chosen to set my router as a TCP server. Please see my screenshot below for the setting of my RS-232 port. It is important to note here that I have chosen port 4000 as my TCP port.

Enable expansion port 2 access over TCP/UDP  
HW flow control not supported

Port Type: RS-232

Baudrate: 9600

Data Bits: 8

Parity: none

Stop Bits: 1

Split Timeout: 20 msec

Protocol: TCP

Mode: server

Server Address:

TCP Port: 4000

Inactivity Timeout \* : sec

Reject new connections

Check TCP connection

Keepalive Time: 3600 sec

Keepalive Interval: 10 sec

Keepalive Probes: 5

Use CD as indicator of TCP connection

Use DTR as control of TCP connection

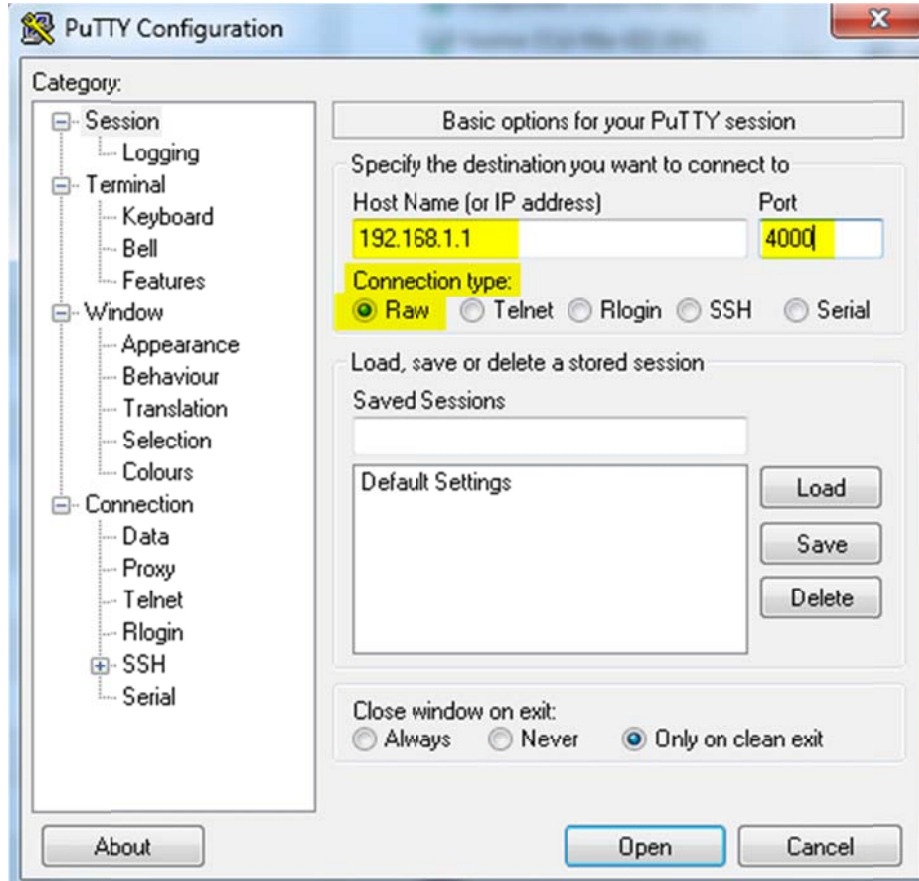
\* can be blank

Apply

4. Now that I have the serial port configured correctly. I will need to loopback the Transmit (Tx) and Receive (Rx) pins on the DB9 connector. The Tx pin is pin 3, and the Rx pin is pin 2. Please see example below.



5. Next, I am ready to open a Terminal Emulator Program, such as PuTTY. Once I have PuTTY open, I will enter the IP address of my router, which is 192.168.1.1, and the port number I specified in Step 3, which is 4000. For Connection type, I will use Raw. The rest of the settings will remain unchanged. Please see screenshot below.



- Next, please click the Open button. A blank, black screen will open with a green cursor in the top left of the screen. Please start typing on your keyboard. You can type anything. For example, I will type, "This is a loopback test!". Once you hit enter after typing your message to go to the next line, your text should replicate as shown below.

