Using MiniCom to Test Comtrol Serial Ports

This procedure discusses how to use MiniCom in Linux to test ports using a null-modem cable connected between two ports. If necessary, cabling information is available in each product's hardware installation documentation.

Note: *This document uses ports tty**R0** and tty**R1** in the examples. You will need to substitute the port numbers that you will be testing, where appropriate, for your environment.*

Hardware Type	Port Nomenclature
RocketPort and RocketModem	tty**R***x*
RocketPort Serial Hub and VS1000	tty**V***x*
RocketPort Serial Hub *Si* RocketPort Serial Hub *ia* DeviceMaster RTS	tty**SI***x*

*Where **x** is the port number, which begins at 0 (zero) and continues sequentially.*

Note: *Linux is case sensitive, be sure to use the proper case. tty is lower case, **R**, **V** and **SI** are in uppercase.*
Instructions for <u>testing modem products</u> are included at the end of this document.

Testing Serial Ports

Use this procedure to test serial ports:

1. Verify that the driver has been installed and loaded using the installation documentation.
2. Connect a null-modem cable to Ports 0 and 1 on the device.
3. Log in to Linux if you have not already do so.
4. At the system prompt, change directory to the **/dev** directory so that a listing of the created Comtrol ports may be seen.

   [root@localhost/root]# cd /dev
5. List the Comtrol ports.

   [root@localhost/dev]# ls ttyR*

   This should show the **tty** ports that have been installed beginning at 0 (zero) and sequentially numbered to the highest port on the device. For example, a RocketPort 16 has **tty***R0* through **tty***R15* displays as:

   ttyR0 ttyR10 ttyR12 ttyR14 ttyR2 ttyR4 ttyR6 ttyR8
   ttyR1 ttyR11 ttyR13 ttyR15 ttyR3 ttyR5 ttyR7 ttyR9
6. Return to the home directory:

   [root@localhost/dev]# cd ..
7. Start Minicom with the **setup** option to configure the appropriate port.

   [root@localhost/root]# minicom -s

   The following warning message may appear:

   minicom: Warning: Configuration file not found, using defaults

   The following screen should appear:

   [Configuration]
   Filenames and paths
   File transfer protocols
   Serial port setup
   Modem and dialing
   Screen and keyboard
   Save setup as dfl
   Save setup as...
   Exit
   Exit from Minicom

8. Using the up and down arrow keys select **Serial port setup**. The following window should appear:

A - Serial Device	**: /dev/modem**
B - Lockfile Location	**: /var/lock**
C - Callin Program	
D - Callout Program	
E - Bps/Par/Bits	**: 38400 8N1**
F - Hardware Flow Control	**: Yes**
G - Software Flow Control	**: No**

    Change which setting?

9. Enter **a** and the cursor should move to the end of **A - Serial Device : /dev/modem**.

10. Using the backspace key, change **modem** to **tty*Rx*** (

where *x* is a number of the port to test. This example uses Ports 0 for the first terminal window, so the line should read, **A - Serial Device : /dev/tty*Rx***

Note: *Linux is case sensitive, be sure to use the proper case. In this the first terminal window we will use Port 0, so the line should read* **A - Serial Device : /dev/ttyR0**

11. With the cursor at the **Change which setting?** option, press the Enter key to close this screen and return to the configuration screen.

12. At the **[Configuration]** menu, Use the up and down arrow keys to select **Exit**. This exits the Configuration utility and starts Minicom. A screen should appear **Initializing Modem** and then a **Welcome** window with a cursor.

13. Press the **Alt-F2** keys to open a second terminal session, which uses Port 1 (tty***R1***).

14. Log in and start Minicom with the **setup** option to configure the appropriate port.

    [root@localhost/root]# minicom -s

The following warning message may appear:

    minicom: Warning: Configuration file not found, using defaults

The following screen should appear:

        [Configuration]
Filenames and paths
File transfer protocols
Serial port setup
Modem and dialing
Screen and keyboard
Save setup as dfl
Save setup as...
Exit

    Exit from Minicom

15. Using the up and down arrow keys, select **Serial port setup**. The following window should appear:

A - Serial Device	**: /dev/modem**
B - Lockfile Location	**: /var/lock**
C - Callin Program	
D - Callout Program	
E - Bps/Par/Bits	**: 38400 8N1**
F - Hardware Flow Control	**: Yes**
G - Software Flow Control	**: No**

    Change which setting?

16. Enter **a** and the cursor should move to the end of **A - Serial Device : /dev/modem**.

17. Using the backspace key, change **modem** to **tty*Rx*** (where *x* is a number of the port to test) so that the line reads **A - Serial Device : /dev/tty*Rx***.

Note: *Linux is case sensitive, be sure to use the proper case. This example uses Port 1 for the second terminal window, so the line should read* **A - Serial Device : /dev/ttyR1**

18. With the cursor at the **Change which setting?** option, press the Enter key to close this screen and return to the configuration screen.

19. From the [**Configuration**] menu, use the up and down arrow keys to select Exit. This exits the Configuration utility and starts Minicom. A screen should appear **Initializing Modem** and then a **Welcome** window with a cursor.

20. You will now have two terminal sessions active, each with a copy of Minicom running.

    Note: *To move between the two session the* **ALT-F1** *and* **ALT-F2** *combinations will be used with* **F1** *as the first terminal session and* **F2** *as the second terminal session. You are now in the second terminal session.*

21. Type in some letters, numbers, and so forth.

22. Use **ALT-F1** to go to the first terminal session.

    Look for the characters that you had just typed in. If these characters are present, you have successfully transmitted data from the second port to the first port.

23. Type in something in the first terminal session.

24. Use **ALT-F2** to go to the second terminal session.

    Look for the characters that you had just typed in. If these characters are present, you have successfully transmitted data from the first port to the second port.

You have successfully tested the Comtrol device and are ready to begin use.

Test a RocketModem

If you are using a RocketModem and have live telephone lines connected to the modems you can do this test through the modems with only a couple of modifications.

1. Use the previous procedure to set up two terminal sessions.

2. **ALT-F1** to go to the first terminal session and type in **ats0=1** to cause the modem to answer after one ring. A response of OK should be seen on the monitor.

3. Use **ALT-F2** to go to the second terminal session and enter **atdt** and the phone number of the first modem. For example, **atdt5551234**.

    The modems should connect and the connection statistics should be seen. Once the connection is made, typing in characters in one session should display the same characters in the other session.

4. To hang up, enter +++**ath**

5. Use **ALT-F2** to go to the second terminal session.

6. Exit Minicom using the **ALT-A** keys then press the **Z** key and the help screen should open.

7. Enter **X** to exit.

8. Log out.

9. **ALT-F1** to return to the first terminal session.

10. Exit Minicom by **ALT-A** then press the **Z** key and the help screen should open.

11. Enter X to exit.