



Raven 1x for TELUS

Quick Start

20070914
Rev 3.0B



Activating your Raven on the TELUS Network

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Note: The Setup Wizard requires the Microsoft .NET framework v. 1.1 and Microsoft Windows 98, Windows 2000, Windows XP, or later. You can obtain .NET from Microsoft: <http://www.microsoft.com>.

This Quick Start guide provides step-by-step directions for activating your Raven on the TELUS cellular network.

Tip: For additional configuration options, refer to the User Guide for your Raven.

Setup Wizard

You can find the Setup Wizard installation on the CD which came with your Raven or on the Sierra Wireless website: <http://www.sierrawireless.com/support/AirLink/default.aspx>. Use only the Setup Wizard for TELUS for best results.

Note: If you are setting modem for circuit switched mode, please test your connection to ensure your network account has been set up correctly.

1. Starting the Setup Wizard

- a. Connect the Raven to your computer using a serial cable.
- b. Connect the power adapter and antenna to your Raven.
- c. Install the Setup Wizard by running TELUSSetup-Wizard.exe and follow the prompts.
- d. Run the Setup Wizard from the Windows Start menu.

Start > All Programs > AirLink Communications > Setup Wizard > Setup Wizard



Figure 1-1: Setup Wizard

- e. Click *Next* to start the Wizard process.

2. Connecting to the Modem

Selector USB/net connection

Note: If you want to use USB with the Setup Wizard you will need to first install the driver, refer to Installing the USB driver section in this Chapter.

Select *Connected to a Serial Port*, check *Auto Detect Port Settings* or select the port from the drop down menu. Click *Next*.

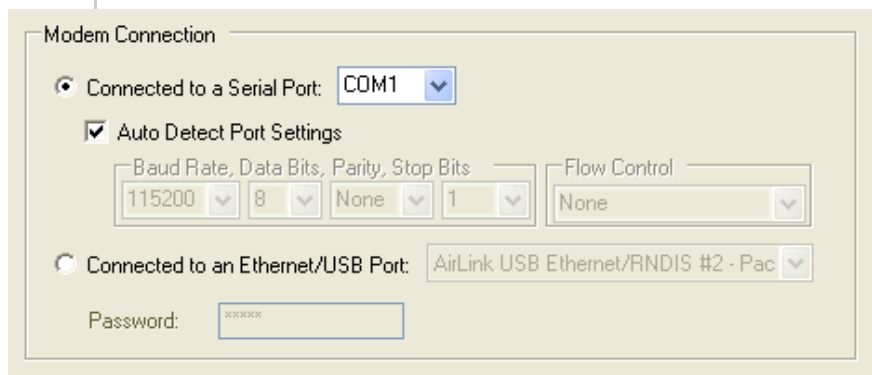


Figure 1-2: Setup Wizard : Serial Connection

Note: You cannot activate with serial and would need USB/net to use set up wizard.

After the Setup Wizard connects to your Raven, the details for your specific model will be displayed. If the incorrect model is displayed, press the Reset Button on your Raven so the Wizard can attempt to connect again. Click *Next*.



Figure 1-3: Setup Wizard : Connected

3. Selecting Tasks

After the Wizard detects your Raven, you will be offered a menu of Setup tasks. Choose the tasks you need from those displayed.

Note: Some tasks shown in the example here might not be available for your Raven model.



Figure 1-4: Setup Wizard : Task Menu

- **Update ALEOS Firmware:** Check the Sierra Wireless server for the latest ALEOS firmware.

- **Activate Modem:** Configure your Raven to connect on the TELUS network.
- **Test Modem Setup:** Verify your Raven is properly configured and connecting on the TELUS network.
- **Setup a DUN Connection:** Create a Dial-Up Networking entry for local connection. This part of the setup is only needed if you will be using your Raven to connect directly from a computer to the Internet or other network.

Click *Next* when you have selected your desired options.

Note: Based on your selections, you may not need to do all of the following Wizard steps.

4. Optional: Update ALEOS

On occasion, Sierra Wireless releases updates to the firmware for your modem. These updates can include new features as well as bug fixes. To make sure your modem is at optimal performance, it is recommended to *Check for Updates* and *Update Now* if an update is found.

Note: While checking for ALEOS Firmware updates, the Setup Wizard uses the Internet connection on your computer to connect to the Sierra Wireless server. Your Raven is not connected to the wireless network for this process.

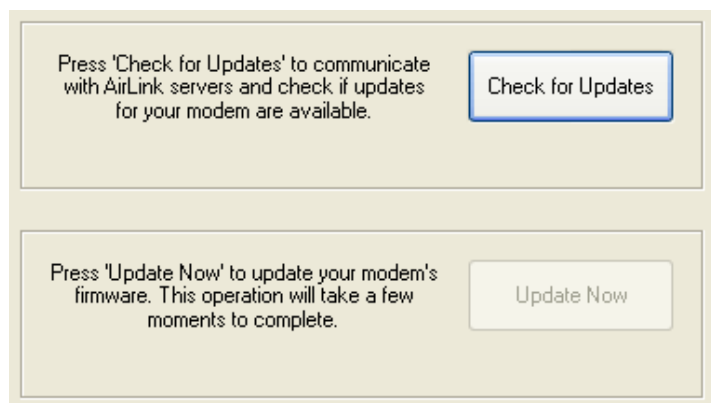


Figure 1-5: ALEOS Update

Tip: You can download current ALEOS firmware from the Sierra Wireless web site and install it separately.

Click *Next* when you are finished updating or if you choose not to update.

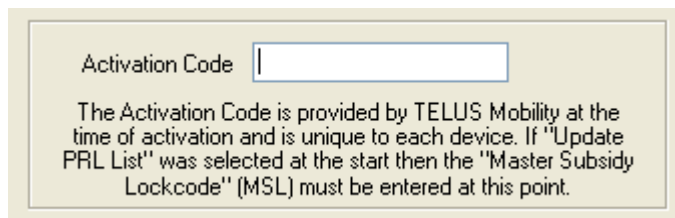
5. Activate Modem

The steps and data required to activate your Raven on the TELUS network varies depending on the model. The Wizard is designed to support older models as well as those currently shipping.

To configure or provision your modem to work on the TELUS network, you will need device activation information provided by TELUS.

Fill in the requested information and click *Next* on each screen.

- **MSL** - Master Subsidy Lock or Activation Code to unlock the internal hardware of your Raven. This code is provided by TELUS.
- **Activation Code** to unlock the internal hardware of your Raven. This code is provided by TELUS.
- Le **code d'activation** est le code requis pour saisir des données dans le Raven.



Activation Code

The Activation Code is provided by TELUS Mobility at the time of activation and is unique to each device. If "Update PRL List" was selected at the start then the "Master Subsidy Lockcode" (MSL) must be entered at this point.

Figure 1-6: Setup Wizard : Activation Code

- **MDN** - The phone number of your cellular account.
- **MIN** or **MSID** - The identification number for your cellular account.

Caution: *Your MDN and MIN or MSID may be different. You need to enter both numbers for activation to succeed.*

MIN

Mobile Identification Number
The ten digit number assigned by the carrier for your modem.

MDN

Mobile Directory Number
The ten digit phone number provided by the carrier. This is the number known to the outside world.

MIN/MSID

Mobile Identification Number/Mobile Subscriber ID
The ten digit number assigned by the carrier for internal use only. May be the same as MDN.

Figure 1-7: Setup Wizard MDN and MIN/MSID

- **Static IP** - If you have a cellular account with a static IP address, check this box if it is displayed.

Caution: If you do not have a static IP account and check the Static IP box, you may not be able to activate your Raven or register on the TELUS network.

The Wizard will check the signal strength of your Raven (RSSI). Click Next to begin the activation process.

Note: The process may take a few minutes. Progress information will display across the bottom.

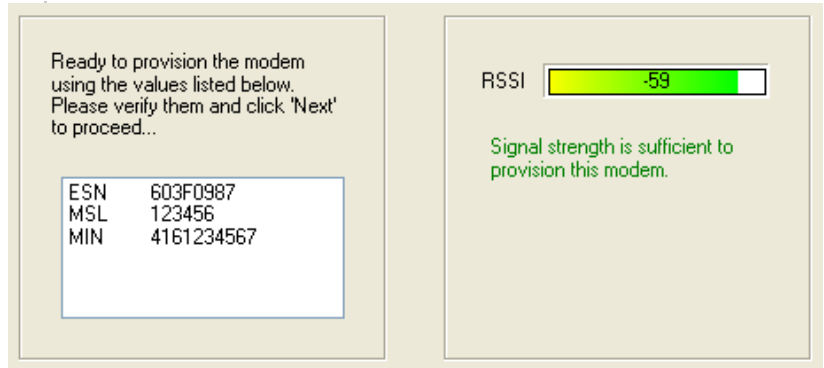


Figure 1-8: Setup Wizard : Signal Test

6. Test Modem Setup

Your connection of your Raven to the Internet is tested using the TELUS cellular network.

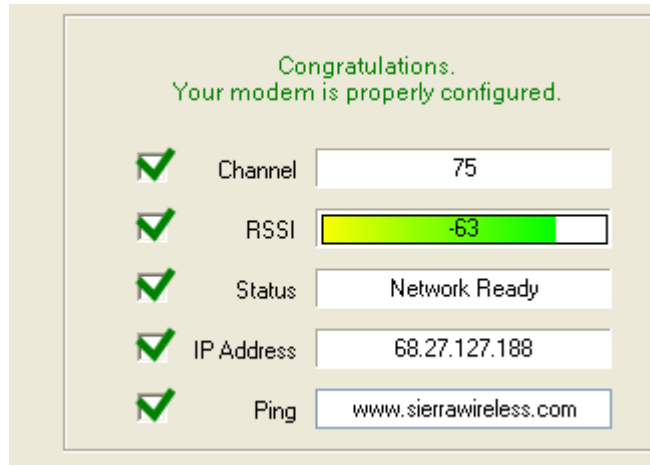


Figure 1-9: Setup Wizard: Connection Test

Green checks in the boxes indicate the tests were successful and your Raven is functioning properly. At this point your modem is configured and activated to work on the TELUS network.

Note: These tests, depending on the strength of your signal, may take a few minutes. Initially, while the tests are being performed, there may be red Xs in the boxes. The Status line will give an indication of the progress of the connection process.

If Test Modem Settings shows the status of your modem is “Data Connection Failed - Waiting for Retry”, “No Service”, “No Carrier”, “Network Negotiation Failed”, “Network Authentication Failed”, “Modem Not Registered”, or the Reg Net light on the modem is not lit, double-check your device activation information and return to the Activate Modem step to reconfigure your Raven.

7. Optional: Setting up a DUN Connection

Dial-up Networking (DUN) allows a computer or other device to use the serial port on a Raven to connect to the Internet or private network just like an analog modem using a standard phone line. The Setup Wizard will install a driver for the Raven and set up the connection between your computer and the Raven. You will need to have administrator access on the computer for this section of the installation.

If you already have other modems installed on your computer, they will be listed on the Sierra Wireless AirLink Modem Installation screen. If you have other modems installed on your computer using the same serial port, they may conflict. As long as you do not intend to use them, you can Remove other modems using this menu.

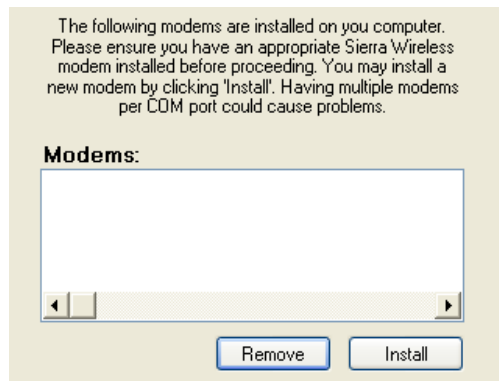


Figure 1-10: Setup Wizard : DUN driver

- a. Select *Install* to begin adding the driver for the Raven to your computer.

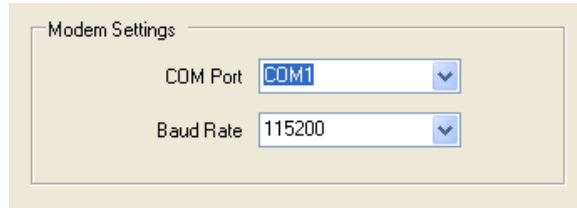


Figure 1-11: Setup Wizard : DUN settings

- b.** The COM port and speed should match the settings of the Raven and where it will be connected (default settings will be pre-entered).
- c.** Select *Next* to begin the driver installation.
- d.** You will see a confirmation box from Microsoft Windows to specify if you wish to install this driver on your computer. Select *Continue Anyway* to install the driver.
- e.** When the driver is installed, you will return to the Modem installation screen. The Raven should now be listed (in addition to any other modem installed on your computer).
- f.** Click *Next* to continue to install the DUN configuration.

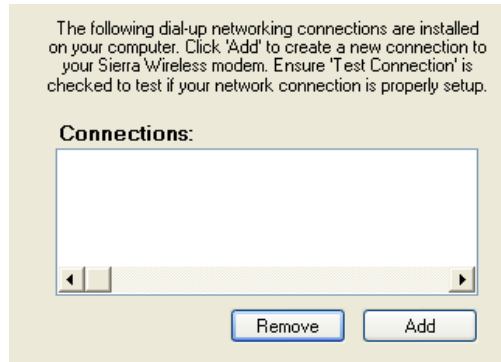


Figure 1-12: Setup Wizard : DUN connections

If you already have a DUN connection installed for a different modem, it will be listed on the Dial-up Networking Connection screen.

- g.** Select *Add* to create a new connection for the Raven.

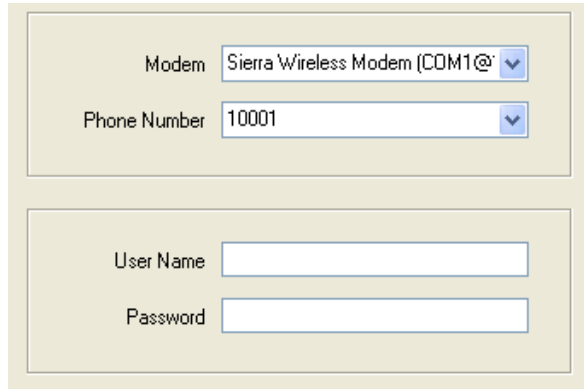


Figure 1-13: Setup Wizard : DUN settings

- h.** From the drop down menu, select *Sierra Wireless modem*.
- i.** The defaults for the phone number, user name and password will already be entered.
- j.** Select *Next* to begin the install.



Figure 1-14: Setup Wizard : DUN

At the completion of the DUN installation, you will return to the Dial-up Networking Connection screen. The AirLink modem should now be listed as a connection.

Your modem is now ready to be used as a DUN device for any applications on your computer needing a network connection. If you have DUN installed for more than one modem, you will need to specify in your application which DUN to use. Unless it is the only DUN, your Raven may not be the one your computer sees as a default.

Hardware Installation

Your Raven should be mounted in a position that allows easy access for the cables so they are not bent, constricted, in close proximity to high amperage, or exposed to extreme temperatures. The LEDs on the front panel should be visible for ease of operational verification. You should ensure that there is

adequate airflow around the modem but that it is kept free from direct exposure to the elements, such as sun, rain, dust, etc.

In a mobile location, such as a car or truck, ensure the location is secure both against abrupt movements of the vehicle and from other items coming into contact with the modem.

Caution: *The Raven is in a hardened case and designed for use in industrial and extreme environments. However, unless you are using cables expressly designed for such environments, they can fail if exposed to the same conditions the Raven can withstand.*



Figure 1-15: Raven Connectors

Cellular

Antennas selected should not exceed a maximum gain of 5 dBi under standard installation configuration. In more complex installations (such as those requiring long lengths of cable and/or multiple connections), it's imperative that the installer follow maximum dBi gain guidelines in accordance with the radio communications regulations of the Federal Communications Commission (FCC), Industry Canada, or your country's regulatory body (if used outside the US).

- RSS-102 (...Health Canada's Safety Code 6 for Exposure of Humans to RF Fields)
- RSS-129 (800 MHz Dual-Mode CDMA Cellular Telephones) (Analogue & CDMA)
- RSS-133 r1 (2 GHz Personal Communications)
- <http://www.industrycanada.ca>.

Your Raven will work with most Dual-Band PCS cellular antennas with a TNC connector that works in the high and low frequencies of the cellular technology of your modem. Connect the primary antenna or primary RF cable directly to the antenna connector on the back of the Raven.

Tip: *When using a cable to an antenna placed away from the modem, minimize the length of your cable. All gain from a more advantageous antenna placement can be lost with a long cable to the modem.*

Power

Your Raven can be used with either DC, available in most automobiles, or 110 AC, standard US wall power, with the appropriate power adapter. DC cables and AC adapters are available as optional accessories in addition to the one included with your Raven.

The DC power cable positive lead should be connected to the battery or power source positive terminal. The power cable negative lead should be connected to the battery or power source negative terminal.

Connecting to a Computer or other Device



Figure 1-16: Serial

The serial port of your Raven can be connected directly to most computers or other devices using a standard straight through cable. If you have a DCE device, you will need a null modem or null modem cable.

Indicator Lights

When your Raven is connected to power and an antenna, there is a specific pattern to the lights to indicate its operation mode.

Note: When using a DC power source (such as a car battery or solar cell), Sierra Wireless recommends placing a fuse (1-2 Amp) on the line close to the power source to protect your power source from possible surges due to shorts or other line issues.



Figure 1-17: Raven Indicator lights

- **Chan (channel)** - Indicates the modem has acquired a network channel.
- **Link** - Indicates a successful connection to the cellular network.
- **Reg (registration)** - Indicates the Raven has acquired an IP from TELUS.
- **RSSI (signal level)** - Light shows the strength of the signal and may be nearly solid (strong signal) or flashing (weaker signal). A slow flash indicates a very weak signal.
- **TxRx (transmit/receive)** - The light will flash as data is transferred to and from the Raven-E modem on the remote network.
- **Pwr (power)** - Indicates the power adapter is connected and there is power getting to the Raven.
- The **Reset button** performs the same function as unplugging power from the modem and plugging it back in. Reset will not alter any saved configuration settings.

Light Patterns

The LEDs on the front of the modem will respond in different patterns to indicate modem states.

- **Normal** - Each LED, mentioned above, lit as applicable.
- **Start up** - The LEDs will cycle from left to right.
- **PassThru mode** - The Chan, Reg, and Link LEDs will blink in tandem. The Tx and Rx LEDs will blink when transmitting or receiving data.

Important Notice

Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless AirLink Raven are used in a normal manner with a well-constructed network, the Sierra Wireless AirLink Raven should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless AirLink Raven, or for failure of the Sierra Wireless AirLink Raven to transmit or receive such data.

Safety and Hazards

Do not operate the Sierra Wireless AirLink Raven in areas where blasting is in progress, where explosive atmospheres may be present, near medical equipment, near life support equipment, or any equipment which may be susceptible to any form of radio interference. In such areas, the Sierra Wireless AirLink Raven **MUST BE POWERED OFF**. The Sierra Wireless AirLink Raven can transmit signals that could interfere with this equipment.

Do not operate the Sierra Wireless AirLink Raven in any aircraft, whether the aircraft is on the ground or in flight. In aircraft, the Sierra Wireless AirLink Raven **MUST BE POWERED OFF**. When operating, the Sierra Wireless AirLink Raven can transmit signals that could interfere with various onboard systems.

Note: Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. Sierra Wireless AirLink Raven may be used at this time.

The driver or operator of any vehicle should not operate the Sierra Wireless AirLink Raven while in control of a vehicle. Doing so will detract from the driver or operator's control and operation of that vehicle. In some states and provinces, operating such communications devices while in control of a vehicle is an offence.

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6,339,405	6,359,591	6,400,336	6,516,204	6,561,851
6,643,501	6,653,979	6,697,030	6,785,830	6,845,249
6,847,830	6,876,697	6,879,585	6,886,049	6,968,171
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5,490,165	5,504,773	5,506,865	5,511,073	5,535,239
5,544,196	5,568,483	5,600,754	5,657,420	5,659,569
5,710,784	5,778,338			

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Consult our website for up-to-date product descriptions, documentation, application notes, firmware upgrades, troubleshooting tips, and press releases:

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Revision History

Revision number	Release date	Changes
1.x	2003-2005	AirLink Communications documentation - CDPD, CDMA, and GPRS.
2.x	Q2: 2005-Q2: 2007	AirLink Communications documentation - CDMA, EV-DO, EDGE, and HSDPA.
3.0	in draft	Converted documentation from AirLink Communications documentation format into Sierra Wireless documentation format. Phase II of the conversion completed. Raven modem line documentation is revised.

