

# PinPoint X

## Quick Start Guide for Verizon



**SIERRA**  
WIRELESS

20070914  
Rev 1.0



# Activating your PinPoint X on the Verizon Network

- [Automatic Activation](#)
- [Setup Wizard](#)
- [Hardware Installation](#)
- [Indicator Lights](#)
- [Mounting](#)

This Quick Start guide provides step-by-step directions for activating your PinPoint X on Verizon's network.

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**Tip:** For additional configuration options, refer to the User Guide for your PinPoint X.

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## Automatic Activation

One of the special features of your PinPoint X for Verizon is the ability to activate itself automatically. When you first power on the PinPoint X, it will check to see if it has been activated with account data. If it finds that it has not yet been activated, the PinPoint X will attempt to retrieve the account data from the Verizon network using Over-the-Air Service Provisioning (OTASP).

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**Caution:** You need to have an account with Verizon before you attempt automatic activation. If you have not ordered an account from Verizon for your PinPoint X, it will not succeed at activating.

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- Attach the antenna to your PinPoint X.
- Plug the PinPoint X into power.
- While the LED lights cycle from the outside to the inside, the PinPoint X is attempting to download its account information. The download process may take about a minute or two.

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**Caution:** Do not move your PinPoint X while it is being programmed.

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- When the lights illuminate, your PinPoint X has successfully completed OTASP and is registered on the Verizon network.

- e. If you need to update the ALEOS firmware, change the account information, install the Dial-Up Networking driver, or want to test the account settings of your PinPoint X, follow the directions below to use the Setup Wizard. Otherwise, skip the Wizard steps and go to the Hardware Installation section.

## Setup Wizard

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

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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>.*

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### 1. Wizard: Starting the Setup Wizard

- a. Connect the PinPoint X to your computer using an Ethernet cable or a serial cable USB cable.
- b. Connect the power adapter and antenna to your PinPoint X.
- c. Install the Setup Wizard by running VerizonSetupWizard.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 0-1: Setup Wizard

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

If you connected your PinPoint X to the port on your computer, select *Connected to an Ethernet/USB Port* and use the drop down menu to select the Ethernet adapter or USB/net connection on your computer to which the modem is connected (most computers only have one adapter which will be selected for you). The default password for the modem is entered for you. Click *Next*.

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*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.*

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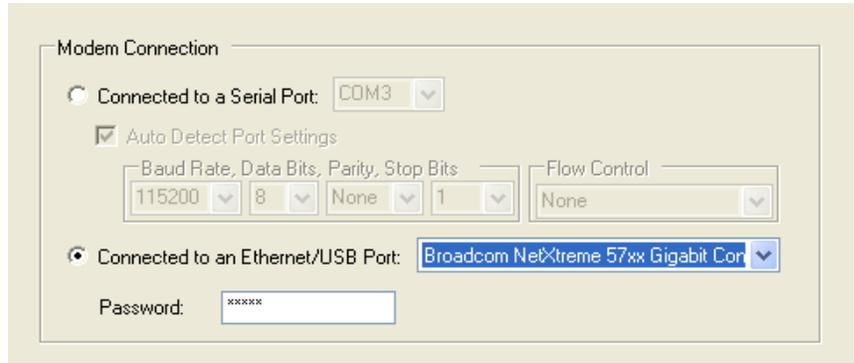


Figure 0-2: Setup Wizard : Ethernet Connection/USB Connection

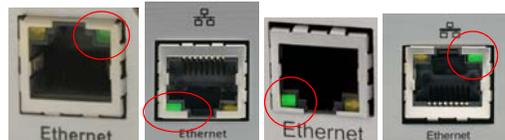


Figure 0-3: Ethernet Port

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**Tip:** If the Setup Wizard is unable to detect the PinPoint X, check the green link LED on the Ethernet port of the modem to see if it is lit to indicate an Ethernet connection with your computer. If you do not see this light or if your computer shows a “Network Cable Unplugged” message or icon, try a different Ethernet cable.

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OR

If you connected your PinPoint X to the serial port on your computer, select *Connected to a Serial Port*, check *Auto Detect Port Settings* or select the port from the drop down menu. Click *Next*.

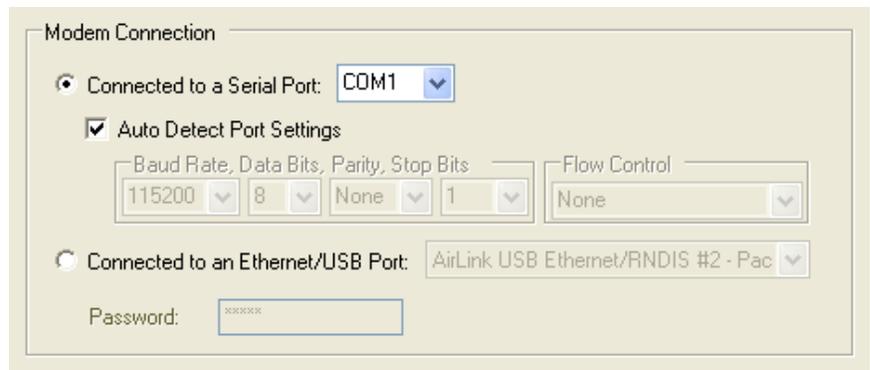


Figure 0-4: Setup Wizard : Serial Connection

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

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



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



*Figure 0-5: Setup Wizard : Task Menu*

- **Update ALEOS Firmware:** Check the Sierra Wireless server for the latest ALEOS firmware.
- **Activate Modem:** Configure your PinPoint X to connect on the Verizon network.
- **Test Modem Setup:** Verify your PinPoint X is properly configured and connecting on the Verizon 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 PinPoint X 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.*

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*Note: Follow this step, only if Update Aleos option has been selected in the task menu checkbox*

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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 PinPoint X is not connected to the wireless network for this process. If you are using Ethernet to activate your Product Name and need to remove the Ethernet cable from your modem to connect to your usual Internet connection to Check for Updates, be sure to reconnect the PinPoint X before you select Update Now.*

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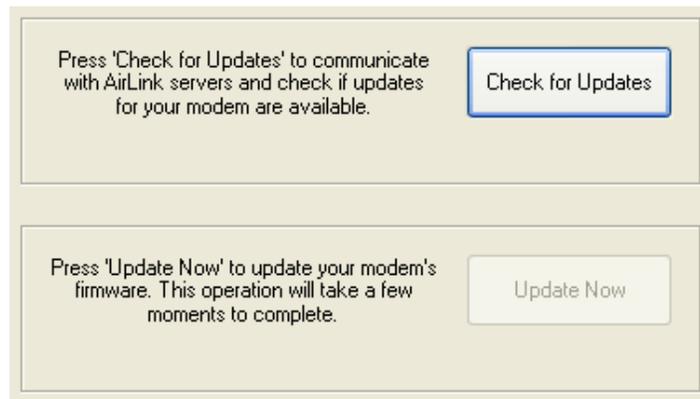


Figure 0-6: ALEOS Update

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

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

The steps and data required to activate your PinPoint X on the Verizon network varies depending on the model.

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

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

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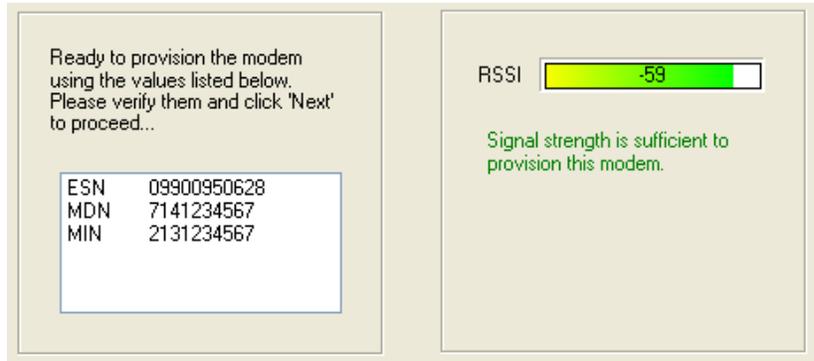


Figure 0-7: Setup Wizard : Signal Test

**Tip:** If you have low signal, you may encounter difficulties activating your modem. Try a different location or a different antenna to increase your signal if it is -90 or lower (yellow to red bar).

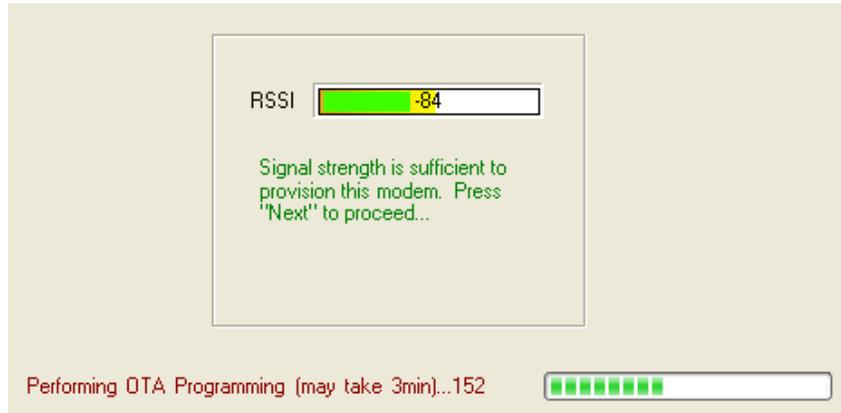


Figure 0-8: Setup Wizard: OTASP screen

**Tip:** The PinPoint X will get all of its account data from the next work while doing an over the air activation (OTASP).

Your connection of your PinPoint X to the Internet is tested using the Verizon cellular network.

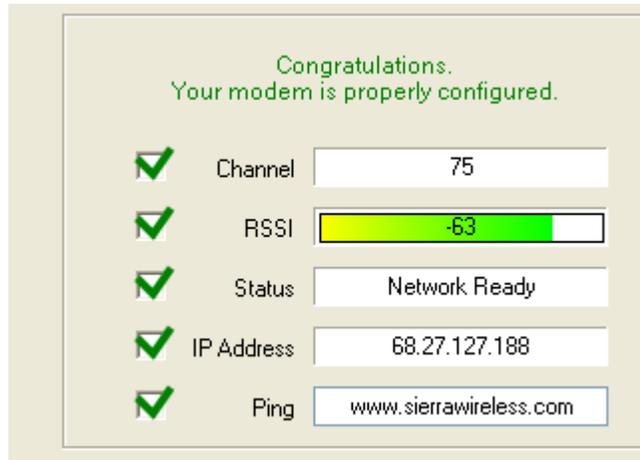


Figure 0-9: Setup Wizard: Connection Test

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

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*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.*

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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 PinPoint X.

Private Networking Data Link is a special account configuration that provides a more secure connection for your PinPoint X and often provides a static IP with authentication on an exclusive server. Consult your Verizon representative for details about Private Networking Data Link if it’s something you need for your account.

Before you start the configuration for Private Networking, Data Link, the connection to the network may be checked.

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**Caution:** *Ensure the PinPoint X has been activated before you proceed with the Private Networking Data Link steps. Configuring Private Networking Data Link before the PinPoint X has been activated can prevent successful activation.*

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- The Primary Home Agent (**Primary HA**) and Secondary Home Agent (**Secondary HA**) are the network servers responsible for IP addressing and routing. Fill in the information, as applicable.

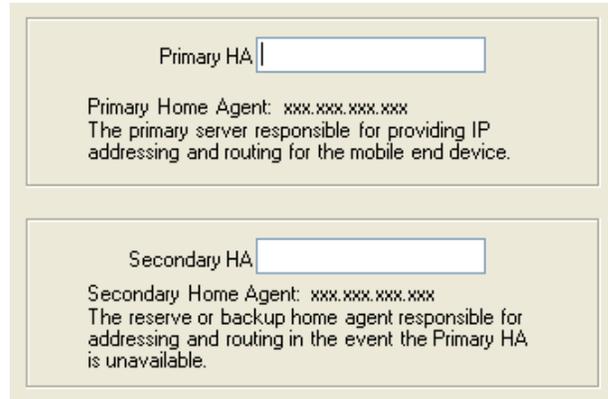


Figure 0-10: Setup Wizard : Primary and Secondary HA

- **HA Shared Secret Password** is used for both Home Agent's. This may be filled in for you with a password created for your PinPoint X for the Verizon network.
- The **AAA/Vision Password** is required by the Authentication, Authorization and Accounting server. This may be filled in for you with default for Verizon.



Figure 0-11: Setup Wizard : Passwords

When the Private Networking Data Link configuration is completed, the connection to the network will be tested again.

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*Note: Using DUN, the speed of the connection is limited to the connection between the modem and the computer. This may be less than the total bandwidth available with EV-DO HSDPA.*

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Dial-up Networking (DUN) allows a computer or other device to use the serial port on a PinPoint X 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 PinPoint X and set up the connection between your computer and the PinPoint X. 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.

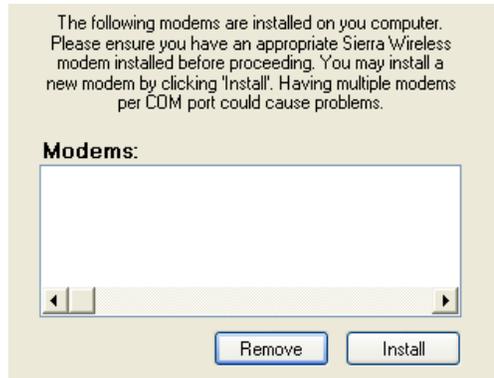


Figure 0-12: Setup Wizard : DUN driver

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

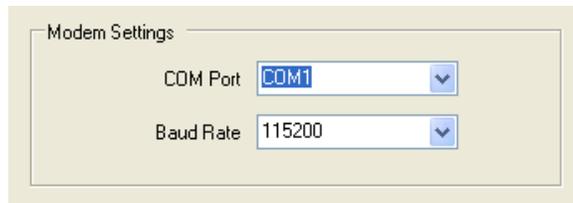


Figure 0-13: Setup Wizard : DUN settings

- b. The COM port and speed should match the settings of the PinPoint X 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 PinPoint X 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 0-14: 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 PinPoint X.

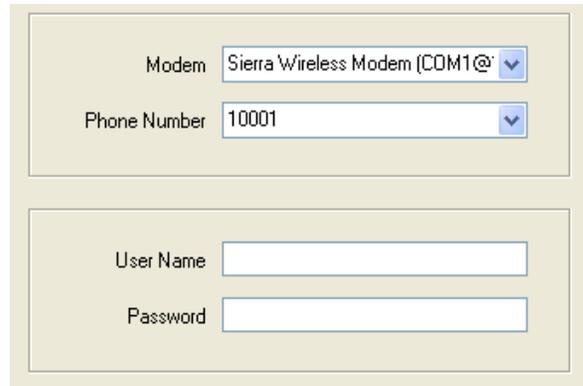


Figure 0-15: Setup Wizard : DUN settings

- 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 0-16: 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 PinPoint X may not be the one your computer sees as a default.

## Hardware Installation

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*Note: During installation, please be sure that the cables are secure but do not bear any additional weight that could loosen the connector from the unit.*

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Your PinPoint X 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.

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**Caution:** *The PinPoint X 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 PinPoint X can withstand.*

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Figure 0-17: PinPoint X Connectors

## Cellular

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*Note: This device is not intended for use within close proximity of the human body. Antenna installation should provide for at least a 20 CM separation from the operator.*

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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).

Your PinPoint X will work with most cellular antennas with a TNC or SMA (diversity only) connectors. Connect the primary antenna or primary RF cable directly to the antenna connector on the back of the PinPoint X.

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**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.*

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*Note: Use of receive diversity for EV-DO is optional. Data transmission and reception may be adversely affected if it is not used.*

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To provide for diversity in the signal reception, connect the second antenna to the second antenna port (SMA, labeled Rx Div) on the back of the PinPoint X.

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**Caution:** *If you are not using a diversity antenna, you should disable the receive diversity option. In Ace Manager in the 1x/EV-DO group, configure \*EVDODIVERSITY.*

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## GPS

Your PinPoint X will work with most standard active GPS antennas. Connect the GPS antenna or cable directly to the threaded SMA connector.

Mount the GPS Antenna in the vehicle. The less the cable is wrapped and bound together, the better it will perform. Place it on the roof, or on the dash, or rear panel where it has a good view of the sky (greater than a 90 degree view of the sky).

There are three options for antenna mounts:

- Magnetic roof-mount
- Through glass-mount
- Permanent mount

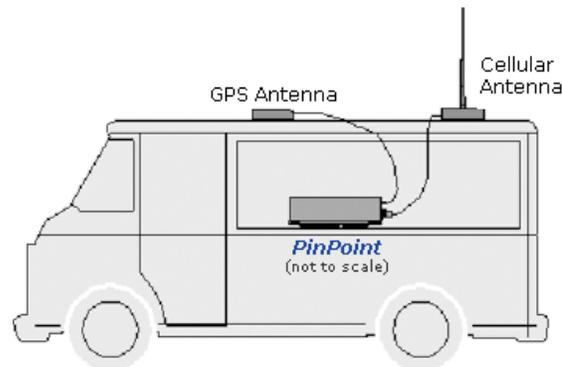


Figure 0-18: GPS Antenna Placement for a Vehicle

## Power



**Warning:** *Risk of electric shock: Only use the supply voltages listed in this user guide.*



**Warning:** *When using AC to DC adapter the ambient temperature should not exceed 40°C.*

Your PinPoint X can be used with either DC or AC, with the appropriate power adapter. DC cables and AC adapters are available as optional accessories in addition to the one included with your PinPoint X.

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.

The PinPoint X has an internal polysilicon circuit breaker that opens at 0.5 to 1.0 amps of current.

If you wish to use the Standby Ignition Sense (SISE) feature of your PinPoint X, the white wire of the three wire DC power cable should be used to connect to your ignition. When SISE is enabled in the modem and the ignition sense connector is

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wired to your vehicle, the ignition sense will provide a link to the modem to enable it to enter a low-power, standby mode when your vehicle is turned off and power up more quickly when the ignition is started.

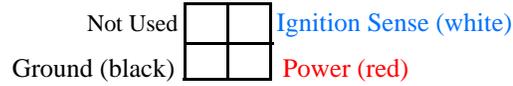


Figure 0-19: Ignition Sense power connector

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**Warning:** Explosion Hazard - Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.

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## Connecting to a Computer or other Device



Figure 0-20: Ethernet

The Ethernet port of your PinPoint X can be connected directly to a computer or other Ethernet device with either a cross-over cable or a straight-through cable. The Ethernet port on the PinPoint X is auto-sensing and will auto-detect the speed of the connecting device for 100baseTX or 10baseT. If you are connecting the modem to a hub or switch you should use a straight through cable or use the uplink port on the hub or switch with a cross-over cable.



Figure 0-21: Serial

The serial port of your PinPoint X 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.



Figure 0-22: USB

Your PinPoint X's full-speed (12 Mbit) USB 2.0 port can be connected directly to most computers or other devices using a standard full-speed USB 2.0 cable. If the computer or device you are connecting or the cable is not rated for full-speed, the modem will communicate at a reduced speed to match. The PinPoint X functions as a device, not a host.

When it is connected to a computer, the USB port should be seen as a COM port or Ethernet port after the applicable driver is installed.

The PinPoint X has a standard B connector.



Figure 0-23: I/O

Your PinPoint X also has an I/O port with digital inputs, analog inputs, and relay outputs which can be connected to external devices.

The I/O port can use an optional I/O harness available through Sierra Wireless.

## Indicator Lights

When solid, PinPoint X indicates a successful connection. When your PinPoint X is connected to power and an antenna, there is a specific pattern to the lights to indicate its operation mode.

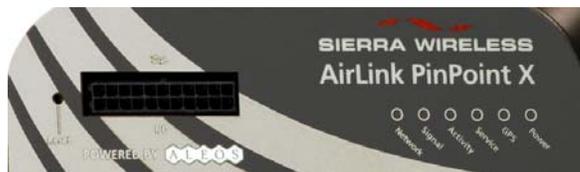


Figure 0-24: PinPoint X Indicator lights

- **Network** - Indicates a successful connection to the cellular network with an IP address given and a channel acquired.
- **Signal** - 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.

### RSSI LED Ranges

RSSI/Signal LED Status	Ranges of RSSI (dBm)
On Solid	Equal to or stronger than -69

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### RSSI LED Ranges

RSSI/Signal LED Status	Ranges of RSSI (dBm)
Fast Blink	-70 to -79
Normal blink	-80 to -89
Slow Blink	-90 to -99
Extinguished	Equal to or weaker than -100

- **Activity** - Lights will flash as data is transferred to and from the PinPoint modem on the remote network.
- **Service** - Indicates when the connection is EV-DO. Unlit indicates 1x.
- **GPS** - Indicates a GPS fix. When lit, the PinPoint X has GPS coordinates to report.
- **Power** - Indicates the power adapter is connected and there is power getting to the PinPoint X.
- The **Reset button** (on the left side of the PinPoint X) has two functions. If it is quickly depressed and released, the modem will simply power cycle the internal hardware. If, however, the reset is depressed and held for several seconds (count 10 slowly, and wait for the power light to go off after the light pattern stops), the ALEOS configuration settings will return to the factory defaults.

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**Caution:** *If you reset the modem configuration using the reset button, you may need to reactivate your PinPoint X with Verizon.*

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### Light Patterns

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

- **Normal** - Each LED, mentioned above, is lit as applicable.
- **Start up** - The LEDs will cycle from left to right.
- **PassThru mode** - Network and Signal LEDs will blink in tandem. The Activity LED will blink when transmitting or receiving data.
- **SOS** - The Network Channel and Service Err or Service LEDs will blink alternate to each other.
- **Low Power** - All LEDs will be off except the power LED which will blink every 3 seconds.
- **Configuration Reset** - The LEDs will cycle left to right and then right to left 4 times.
- **Authentication Failure** - The Network, Signal, and Activity LEDs blink every 2 seconds.
- **Data Retry** - The Network, Signal, and Activity LEDs blink every 3 seconds.
- **Invalid MAC Address or Ethernet Initiation Fail** - The Service LED will blink.

## Mounting

The integrated mounting with keyhole screw mounts on the PinPoint X will allow you to secure your modem nearly anywhere, quickly and easily, without the need for a separate bracket.

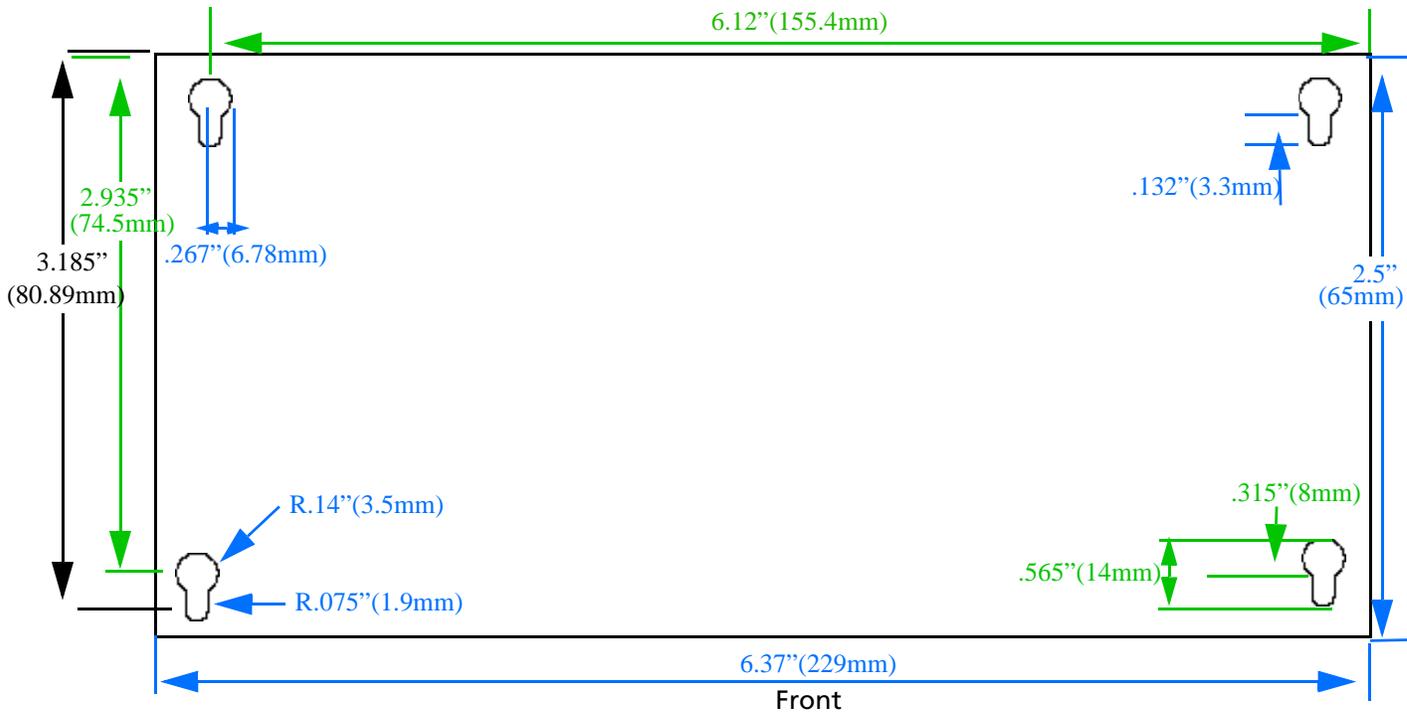


Figure 0-25: Diagram of the PinPoint X base

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# Installing the USB driver

1. Connect the PinPoint X to your computer's USB port

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*Note: The USB port needs to be in USB/net, which is the default.*

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When you connect the PinPoint X for the first time to a USB port on your computer, Windows should detect a new device and prompt you to install the driver.

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*Note: Windows will see each port type as a different USB device and will see every port on your computer separately. If you change the port type on the PinPoint X or connect to a different USB port on your computer or hub, Windows will see it as a new device.*

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Figure 0-26: Found New Hardware Wizard

- a. To start the install of the USB virtual Ethernet driver, select No, not this time and click Next.
- b. Select Install from a list of specific location and click Next.

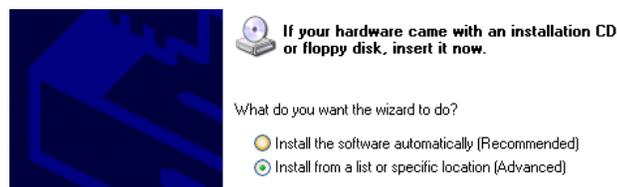


Figure 0-27: Hardware Wizard : Location options

2. Install the driver from a specific location
  - a. Select and/or enter the location of the driver.
    - If the driver is on the CD and the CD is in your drive, you can just select Search removable media.
    - If you will be installing the driver from a file downloaded from the Sierra Wireless website, select Include this location in the search and type in the location where you downloaded the file.

**b. Click Next.**

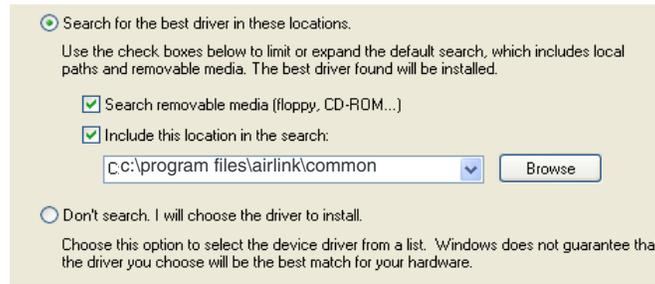


Figure 0-28: Hardware Wizard : Install location

After you select the location, the installation should begin. If you get a message asking if you want to continue the installation, click Continue Anyway.



Figure 0-29: Hardware Wizard : Installing

**c. Click Finish to complete the installation. The driver should be enabled without any need to reboot your computer.**



Figure 0-30: Hardware Wizard : Finish

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*Note: If you are already connected to the modem with an Ethernet cable, when you complete the installation of the USB Ethernet driver, your computer will not use the USB connection initially. You may need to reboot your computer before you can use the USB port as an Ethernet connection to the modem.*

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**3. Optional: Verify and Configure the Virtual Port Settings**

## Virtual Ethernet

The USB Ethernet connection will show up in your Network Connections as a Local Area Connection.

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**Tip:** If you also have an Ethernet card on the computer or have installed the USB Ethernet to more than one USB port on your computer, the USB Ethernet may show up with a number.

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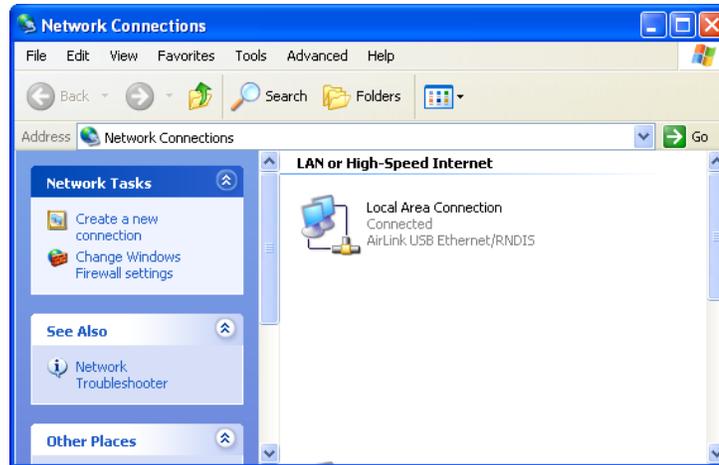


Figure 0-31: Network Connections

You can also verify the installation by looking in the Device Manager.

- a. Click on Start > Control Panel.
- b. Double-click on the System icon.
- c. Select the Hardware tab and click the Device Manager button.

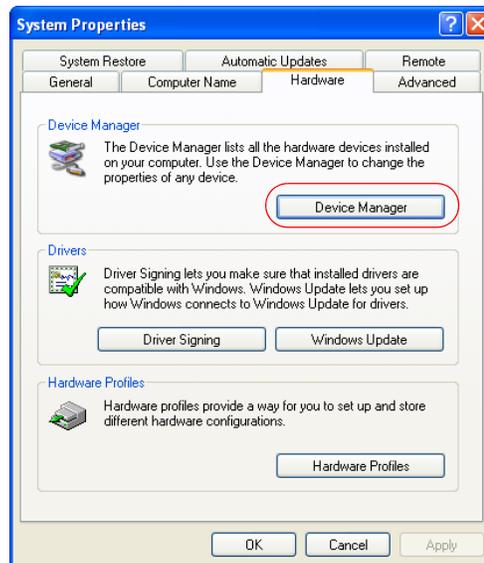


Figure 0-32: System Properties

- d. Click on the + in front of *Network Adapters*.

The newly installed driver, AirLink USB Ethernet/RNDIS, should be displayed. If the driver is displayed with a # and number behind the driver name (such as, AirLink USB Ethernet/RNDIS #2), it means more than one is installed on your

computer, most likely for different USB port. More than one copy of the driver should not cause any problems since only the connected port and its driver would be active.

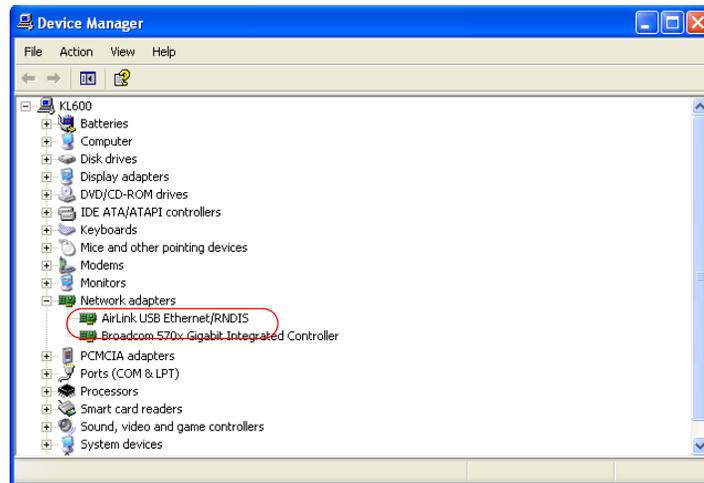


Figure 0-33: Device Manager - Ethernet

## Virtual Serial

You can verify the installation by looking in the Device Manager.

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*Note:* You cannot use USB/serial to with the Wizard to activate the modem.

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- a. Click on Start > Control Panel.
- b. Double-click on the System icon.
- c. Select the Hardware tab and click the Device Manager button.

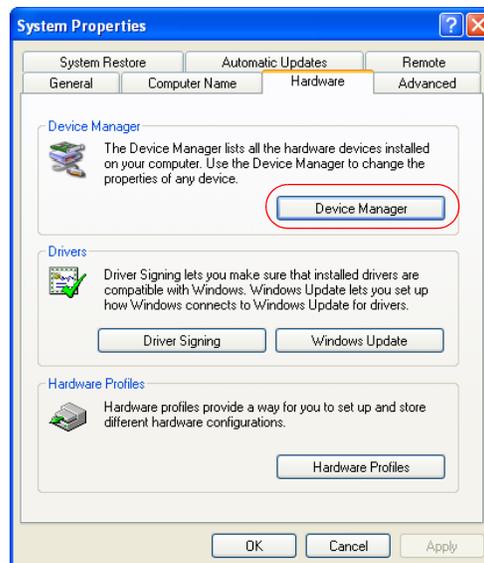


Figure 0-34: System Properties

- d. Click on the + in front of *Modems*.

The newly installed driver, AirLink USB Serial Port, should be displayed.

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**Tip:** If the driver is displayed with a # and number behind the driver name (such as, AirLink USB Serial Port #2), it means more than one is installed on your computer, most likely for different USB port. More than one copy of the driver should not cause any problems since only the connected port and its driver would be active.

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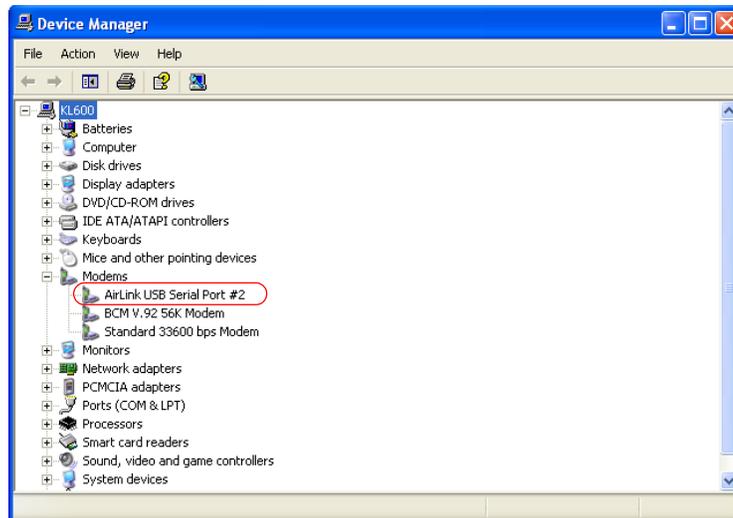


Figure 0-35: Device Manager - Serial

To connect to the modem using the USB virtual serial, most applications or utilities will require you to select or enter the serial (COM) port number. The USB connection will appear as a standard serial port, so you will need to determine its number to connect to it. The driver installation will automatically assign a port or you can change it if you wish to another unused port.

- a. From the Device Manager, right click on the driver name and select Properties.



Figure 0-36: Device Manager : Driver menu

- b. Select the Advanced tab and click the Advanced Port Settings button.

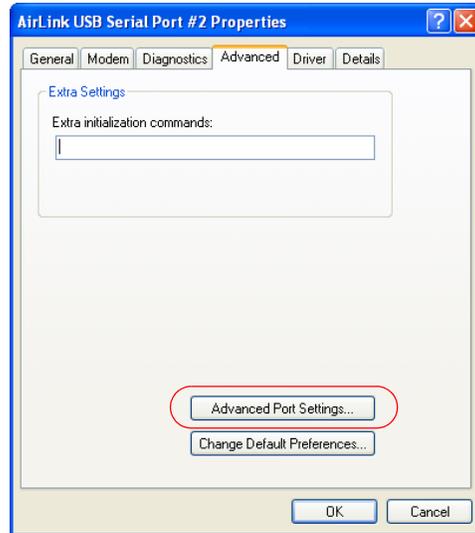


Figure 0-37: Driver Properties

- c. At the bottom of the screen, the current port used will be listed. Use the drop down menu to select an available COM port number if you need to change it.

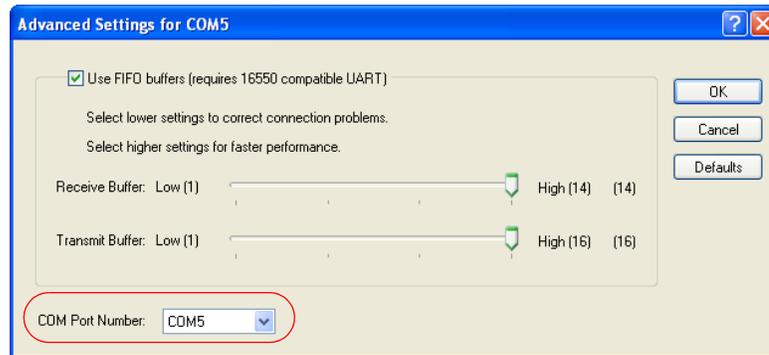


Figure 0-38: Advanced Settings



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