

# Sierra Wireless SB300 Series OEM Modems

*User's Guide*

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## Important Notice

Because of 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 modem are used in a normal manner with a well-constructed network, the Sierra Wireless modem 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, Inc., accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless modem, or for failure of the Sierra Wireless modem to transmit or receive such data.

## Safety and Hazards

Do not operate the Sierra Wireless modem 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 modem **MUST BE TURNED OFF**. The Sierra Wireless modem can transmit signals that could interfere with this equipment.

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

The driver or operator of any vehicle should not operate the Sierra Wireless modem 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.

## Patents

Portions of this product are covered by some or all of the following US patents: D367062, D372248, D372701, 5515013, 5617106, 5629960, 5682602, 5748449, and other patents pending.

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## Regulatory Information

The equipment certifications appropriate to your device are marked on the device and the accompanying product specific information. Where appropriate, the use of the equipment is subject to the following conditions:



### **CAUTION**

*Unauthorized modifications or changes not expressly approved by Sierra Wireless, Inc. could void compliance with regulatory rules, and thereby your authority to use this equipment.*



### **WARNING (EMI) - United States FCC Information**

*This equipment has been tested and found to comply with the Class B limits pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in an appropriate installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:*

- *Reorient or relocate the receiving antenna*
- *Increase the separation between the equipment and receiver*
- *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected*
- *Consult the dealer or an experienced radio/TV technician for help*



*While this device is in operation, a separation distance of at least 20cm must be maintained between the radiating antenna and the body of all persons exposed by the transmitter to meet FCC exposure guidelines.*



### **WARNING (EMI) – Canada**

*This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference causing equipment standard entitled 'Digital Apparatus', ICES-003 of the Department of Communications.*

*Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: 'Appareils Numériques', NHB-003 édictée par le ministre des Communications.*

## RSA Licensee

If you have purchased this product under a United States Government contract, it shall be subject to restrictions as set forth in subparagraph (c)(1)(ii) of Defense Federal Acquisitions Regulations (DFARs) Section 252.227-7013 for Department of Defense contracts, and as set forth in Federal Acquisitions Regulations (FARs) Section 52.227-19 for civilian agency contracts or any successor regulations. If further government regulations apply, it is your responsibility to ensure compliance with such regulations.



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## Customer Service

### *Help Desk*

Open between 6:00 a.m. and 5:00 p.m. Pacific Time  
(604) 231-1128

### *Warranty and Service Desk*

Open between 8:00 a.m. and 5:00 p.m. Pacific Time  
(604) 231-1157  
support@sierrawireless.com

### *Sales Desk*

Open between 8:00 a.m. and 5:00 p.m. Pacific Time  
(604) 231-1100  
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## Web

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

[www.sierrawireless.com](http://www.sierrawireless.com)



**Contents**

**Getting Started**

**1. About this Guide ..... 1**

**1.1. Introduction .....1**

    1.1.1. Getting Started.....1

    1.1.2. Operational View.....1

    1.1.3. Hardware View.....1

    1.1.4. OEM Developer’s Toolkit Checklist .....2

**1.2. References.....2**

**1.3. Currency .....2**

**1.4. Document Structure.....3**

    1.4.1. Modem Operations .....3

**1.5. Conventions Used in this Reference .....3**

**2. Getting Started ..... 5**

**2.1. Introduction .....5**

**2.2. Registration.....5**

    2.2.1. CDPD.....5

    2.2.2. CSC (AMPS).....6

    2.2.3. Wireline .....6

**2.3. Setup Considerations .....6**

    2.3.1. Host Computer Terminal.....6

    2.3.2. Physical considerations .....7

    2.3.3. Antenna considerations .....7

**2.4. MIB Presets .....7**

**2.5. Connections.....7**

**The Operational View**

**3. Software Installation ..... 11**

**3.1. Introduction .....11**

**3.2. Installing Software on the Host .....11**

**3.3. Configuration using WirelessExpert .....12**

**3.4. About Watcher .....13**

- 3.5. Using Watcher for Modem Setup..... 13**
  - 3.5.1. Configuring Watcher ..... 13
  - 3.5.2. Configuring Cellular Settings using Watcher..... 14
- 3.6. Monitoring CDPD With Watcher ..... 15**
- 3.7. About the Watcher Program Window ..... 16**
  - 3.7.1. Icon Status ..... 16
  - 3.7.2. Watcher Menus and Commands..... 16
  - 3.7.3. Toolbar Buttons..... 18
  - 3.7.4. Status Indicators ..... 18
  - 3.7.5. Updating Status Indicators ..... 18
  - 3.7.6. Quitting Watcher ..... 18
- 3.8. Updating Modem Firmware..... 19**
- 4. Basic Modem Operation.....21**
  - 4.1. Introduction..... 21**
  - 4.2. Modem Modes and States ..... 21**
    - 4.2.1. Modes ..... 21
    - 4.2.2. States ..... 21
    - 4.2.3. Conditions..... 22
  - 4.3. Modem Communications with the Host (DTE) ..... 22**
    - 4.3.1. DTE Communication Options..... 22
    - 4.3.2. DTR Signal Handling ..... 22
    - 4.3.3. DSR Signal Control..... 23
    - 4.3.4. Local Flow Control ..... 23
    - 4.3.5. Result Code Formats ..... 23
  - 4.4. Communication Protocols and Stacks ..... 24**
    - 4.4.1. SB300 Series Internal Protocol Stacks ..... 24
  - 4.5. Modem Handshaking (SB320) ..... 25**
    - 4.5.1. Modem Protocol Layers..... 25
    - 4.5.2. CSC vs. Wireline..... 26
- 5. CDPD Operation.....29**
  - 5.1. Cellular Digital Packet Data (CDPD) Introduction ..... 29**
    - 5.1.1. Security..... 29
    - 5.1.2. Architecture ..... 30
    - 5.1.3. Modem Registration ..... 30
    - 5.1.4. CDPD Radio Coverage..... 31
    - 5.1.5. CDPD and the SB300 Series Modems..... 31

**5.2. Configuring NEI Entries .....32**

    5.2.1.    NEI Table.....32

    5.2.2.    SPNI Matching.....33

**5.3. CDPD Network Registration .....33**

    5.3.1.    Active and Auto-register NEI Indices.....34

    5.3.2.    Manual Registration.....34

    5.3.3.    Automatic Registration .....35

    5.3.4.    De-registration.....35

**5.4. Monitoring the Network Connection.....36**

    5.4.1.    Radio Signal Monitors .....36

    5.4.2.    Registration Status.....36

**5.5. Sleep Mode.....37**

    5.5.1.    CDPD Sleep .....37

    5.5.2.    Logic Sleep.....37

**5.6. Friends Only .....38**

**5.7. Packet Services .....38**

    5.7.1.    Serial Line Interface Protocol (SLIP).....38

    5.7.2.    User Datagram Protocol (UDP).....40

    5.7.3.    Transmission Control Protocol (TCP).....46

**5.8. Packet Assembly Management.....51**

**5.9. Data and Telemetry Applications .....52**

**6.    CSC Operation..... 53**

**6.1. Introduction .....53**

    6.1.1.    Modem Registration .....53

    6.1.2.    CSC Radio Coverage .....53

    6.1.3.    Modem Pools.....54

**6.2. Configuring the Modem for CSC .....54**

    6.2.1.    Setting the NAM.....54

    6.2.2.    Confirm CSC Service.....55

**6.3. Originate a CSC Connection .....55**

**6.4. Auto-answer a Cellular Call.....56**

**6.5. Optimizing Data Performance.....56**

    6.5.1.    Factory Default for ETC .....56

    6.5.2.    Connections to ETC Enabled Modems .....58

    6.5.3.    Connections to Non-ETC Compatible Modems .....58

    6.5.4.    Connections to Modem Pools.....59



**7. Wireline Operation .....61**

**7.1. Introduction..... 61**

7.1.1. Hardware ..... 61

**7.2. Configuring the Modem for Wireline ..... 61**

7.2.1. Connecting to another Wireline Modem or Modem Pool ..... 61

7.2.2. Connecting to a Cellular Modem ..... 61

**7.3. Originate a Wireline Connection ..... 62**

**7.4. Auto-answer a Wireline Call..... 63**

**8. Troubleshooting .....65**

**8.1. Introduction..... 65**

**8.2. General Modem Problems..... 65**

**8.3. General Communication Problems..... 66**

**8.4. CDPD Problems..... 66**

**8.5. CSC Problems ..... 67**

**8.6. Wireline Problems..... 67**

**The Hardware View**

**9. Product Descriptions.....69**

**9.1. Hardware Integration Considerations ..... 69**

**9.2. Specifications Common to All Modems ..... 70**

9.2.1. Application Interface Specifications..... 70

9.2.2. RF Features ..... 70

9.2.3. Special Features ..... 70

9.2.4. Environmental Specifications ..... 71

9.2.5. Connector Part Numbers..... 71

**9.3. SB300 CDPD Modem ..... 73**

9.3.1. Mechanical..... 73

9.3.2. Connectors ..... 74

9.3.3. Power Specifications ..... 74

9.3.4. Electrical..... 74

# The Hardware View

## 9. Product Descriptions

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The SB300 Series modems are designed for integration into devices that require wireless communications such as PC's, portable and handheld devices, metering and monitoring equipment, and point of sale terminals.

All models provide CDPD V1.1 19.2 kbps communication. The SB320 also supports Circuit Switched Cellular (CSC-AMPS) V.34 data rates to 16.8 kbps, and wireline (PSTN) V.34 data rates to 33.6 kbps.

Packet Assembly / Disassembly (PAD) services are available in the modem for TCP and UDP communications. SLIP and PPP are also supported for host based protocol stacks.

This chapter provides descriptions and specifications for the family. Individual modems are described in separate sections below. All connector parts described are tabulated with mating part numbers and supplier contact information in Section 9.2.5 below.

The SB300 and SB320 share common physical and interface characteristics. The SB300 and 302 share common functional characteristics.

### 9.1. Hardware Integration Considerations

When integrating one of the SB300 Series modems, read Sections 9.2 Specifications Common to All Modems, and then the specific section for the model being integrated.

In addition, the following items need to be addressed by the integrator:

#### Mounting

- Effects of shock and vibration.
- Protection from dust and dirt in connections.
- Heat dissipation.

#### RF

- Shielding and filtering, and impacts on interference and sensitivity.
- Antenna location and type, and impacts on RF performance.

#### Regulatory Approvals

Although the modems were tested on their own to be compliant with FCC Parts 15 and 22, your completed installation must be certified to meet regulatory requirements in your area.

In the United States of America, the FCC requires the following warning to be included:

“While this device is in operation, a separation distance of at least 20cm must be maintained between the radiating antenna and the body of all persons exposed by the transmitter to meet FCC exposure guidelines.”

Integrators may eliminate the need for this warning label if a Specific Absorption Rate (SAR) report is filed with the FCC.