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## Welcome to the AirBooster™ 350 RF amplifier

The AirBooster 350 is an intelligent RF amplifier for boosting some Sierra Wireless Class III (600mW) [CDPD devices](#) to Class I (3W). The amplifier is an "intelligent" booster in that it does not simply apply a fixed gain to a varying input RF level as a linear amplifier would. Instead, the AirBooster amplifier takes a constant RF level from the CDPD device and applies as much gain as the CDPD system requires at that moment.

A [GPS Option](#) is also available, adding a GPS receiver inside the package. This is available as a field upgrade kit or pre-installed at the factory. Documentation related to GPS is covered in a [separate section](#).

## Your AirBooster 350 Components

All AirBooster 350 packages will include the following components:

- AirBooster™ 350 RF amplifier.
- Power Cable.
- Sierra Wireless Product CD-ROM with this Documentation including a [3 Year Warranty](#).
- 4 Screws with Washers.
- Mounting Template.
- Quick Start Guide.

Units with the factory installed GPS option will also include:

- DB-9 Serial Cable.

Additional accessories are available from [Sierra Wireless](#). These include:

- RF Connector Cables (an assortment of lengths and connector options are available).
- GPS Options (Factory Installed or Field Upgrade Kit).
- GPS antennas (Magnetic or Hard Mount options).

For details on these and other Sierra Wireless accessories [contact sales](#) or visit [our web site](#).

## Supported Products

At the time of this writing, the AirBooster 350 RF amplifier is supported by the following Sierra Wireless products:

- AirCard® 350 CDPD Adapter
- SB300 OEM Module

Additional Sierra Wireless products may be added to this list. Consult [our web site](#) for a complete and current list.

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**CAUTION** - The AirBooster 350 amplifier is designed to be used exclusively with supported Sierra Wireless products. Attaching non-supported devices will not harm the device or the amplifier but will severely impair transmissions from the device.

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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 AirBooster 350 RF amplifier are used in a normal manner with a well-constructed network, they 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 AirBooster 350 RF amplifier, or for failure of the AirBooster 350 amplifier to transmit or receive such data.

### Safety and Hazards

Do not operate the AirBooster amplifier 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 host communications device **MUST BE TURNED OFF**. The RF amplifier can transmit signals that could interfere with this equipment.

Do not operate your data transmitter in close proximity to any aircraft, whether the aircraft is on the ground or in flight. Near aircraft, the host communications device **MUST BE TURNED OFF**. When operating, the AirBooster RF amplifier can transmit signals that could interfere with various onboard systems.

The driver or operator of any vehicle should not operate a wireless data device 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.

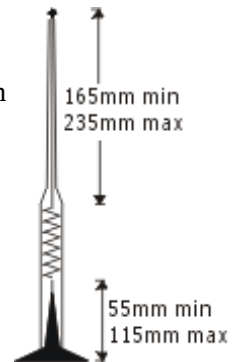


**WARNING** - The FCC has developed guidelines to reduce any possible hazard due to exposure of the human body to electromagnetic radiation (i.e. to radio waves). This device is approved for operation with specific Sierra Wireless modem transmitters using a 3dB gain Cellular Mobile whip antenna with at least 0.5dB cable loss, as described in the filing. The antenna installation must provide a separation distance of 20cm (8") or more between the antenna and all persons to satisfy MPE compliance.



**WARNING** - For FCC compliance only antennas meeting the following attributes should be used:

- Rated gain of 3dBd
- Collinear (coil style) design with dimensions as shown in the illustration at right. The antenna may be encapsulated or open.
- Mount designed for a horizontal metal surface of vehicle using either magnetic or through-hole hard mounting.
- Cable loss of more than 0.5dB.



### 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 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



**WARNING (EMI) - Canada** - This digital apparatus does not exceed the Class A 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 A prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", NMB-003 édictée par le ministre des Communications.

## Patents and Trademarks

Portions of this product are covered by some or all of the following US patents: 5515013, 5617106, 5629960, 5682602, 5748449, 5845216, 5845553, 5878234, 5890057, and other patents pending.

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## Technical Specifications

### AirBooster 350 RF Amplifier

|                        |                                                                                                                         |
|------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Compliance:            | CDPD Release 1.1<br>FCC Parts <a href="#">15</a> and <a href="#">22</a>                                                 |
| Voltage:               | Standard vehicle battery<br>11 - 16 Vdc (13.8 Vdc nominal)                                                              |
| Current:               | Power Reduction Mode: 105mA (typical)<br>Enabled (Receive): 128mA (287mA w/GPS)<br>Maximum Transmit: 1.63A (1.8A w/GPS) |
| Transmitter Power:     | Class I mobile<br>Up to 4.5 Watts ERP from device<br>(depending on <a href="#">antenna/cabling</a> )                    |
| CDPD Device Interface: | SMA RF connector                                                                                                        |
| Antenna Interface:     | 50 ohm TNC RF connector                                                                                                 |
| GPS Interface:         | DB-9 at RS-232 level<br>non-standard <a href="#">pinouts</a> .                                                          |
| GPS Antenna Interface: | SMB RF connector                                                                                                        |

## Environmental Specifications

|                 |                                                                                   |
|-----------------|-----------------------------------------------------------------------------------|
| Operating Temp: | -30 to +70° C (restricted duty cycle)<br>-30 to +60° C (un-restricted duty cycle) |
| Storage Temp:   | -40 to +80° C                                                                     |
| Humidity:       | 5 - 95%, non-condensing                                                           |
| Vibration:      | MIL-STD-810E,I-3.4.9.                                                             |

#### GPS DB-9 Connector Pinouts

| Pin # | RS-232 | AirBooster Application                  |
|-------|--------|-----------------------------------------|
| 1     | DCD    | 1 Pulse/sec output from GPS module      |
| 2     | RxD    | RxD (from GPS to host)                  |
| 3     | TxD    | TxD (from host to GPS)                  |
| 4     | DTR    | Input (reserved, DTR is accepted)       |
| 5     | GND    | GND Signal Ground                       |
| 6     | DSR    | Output (reserved)                       |
| 7     | RTS    | TxD_2 (from host to GPS secondary port) |
| 8     | CTS    | RxD_2 (from GPS secondary port to host) |
| 9     | RI     | Output (reserved, disregard signal)     |

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