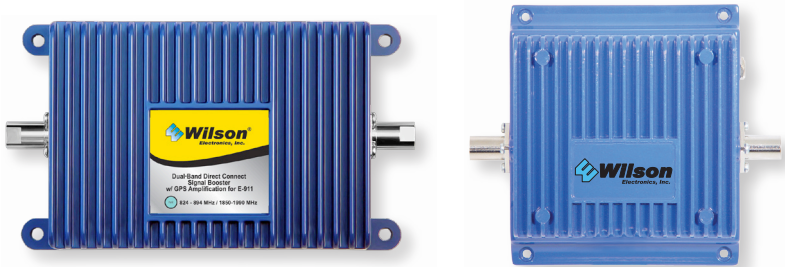


Signal Booster Installation Guide



Direct Connect Signal Booster

Contents:

Before Getting Started / How it Works	2
In-Vehicle Installation	
Outside Antenna - In-Vehicle	3
Wilson Electronics Signal Booster	4
External Adapter	4
In-Building Installation	
Outside Antenna	5
Wilson Electronics Signal Booster	5
External Adapter	6
Powering Up a Wilson Electronics Signal Booster	7
Warnings and Recommendations	8
About Wilson Electronics	9
Guarantee and Warranty	10
Signal Booster Specifications	Back Cover

Note: This manual contains important safety and operating information. Please read and follow the instructions in this manual. Failure to do so could be hazardous and result in damage to your Signal Booster.

Installation Instructions for the Following Wilson Electronics Signal Boosters

Direct Connect Single Band Signal Booster – Model # 811101

Contains 1900 MHz bypass to allow for antenna gain and 1575 MHz bypass to allow for GPS reception.
FCC ID: PWO824D IC: 4726A-824D

Direct Connect Dual-Band Signal Booster – Model # 811201, Product # 810204, 811204, 810205

Safe for use on all 800 / 1900 carriers.
FCC ID: PWO819D IC: 4726A-819D

Direct Connect Dual-Band GSM Signal Booster – Model # 811701

Designed specifically for GSM 900/1800 MHz bands

Direct Connect Dual-Band GSM Signal Booster – Model # 811901

Designed specifically for Dual 900/1800 MHz bands

Direct Connect Dual-Band GSM / TDMA Signal Booster – Model # 812201

Designed specifically for GSM 850 /1900 MHz bands
FCC ID: PWO819D IC: 4726A-819D

Direct Connect iDEN Signal Booster – Model # 814001, 814021

Designed specifically for the iDEN 800 MHz band.
FCC ID: PWO806D IC: 4726A-806D

The term "IC" before the radio certification number only signifies that Industry Canada technical specifications were met.

Inside Some Packages

Some items may not be included in your kit



Direct Connect
Signal Booster



DC plug-in power
supply

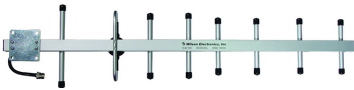


6' extension
cable



In-building AC/DC
power supply

Antenna Options and Accessories



13 dB 800 MHz Yagi Cellular Antenna (301111)



50 Ohm Lightning Surge
Protector N-Connector
(859902)



1900 MHz Yagi PCS Antenna
(301124)



800 MHz Yagi
Cellular Antenna
(301129)



Mini
Magnet
Dual-Band
(301113)



Magnet
Mount
Dual-Band
(301103)



Trucker
Mount
Dual-Band
(301101)



Marine
Antenna
Dual-Band
(301130)



NMO
Mount
Dual-Band
(301104)

Before Getting Started

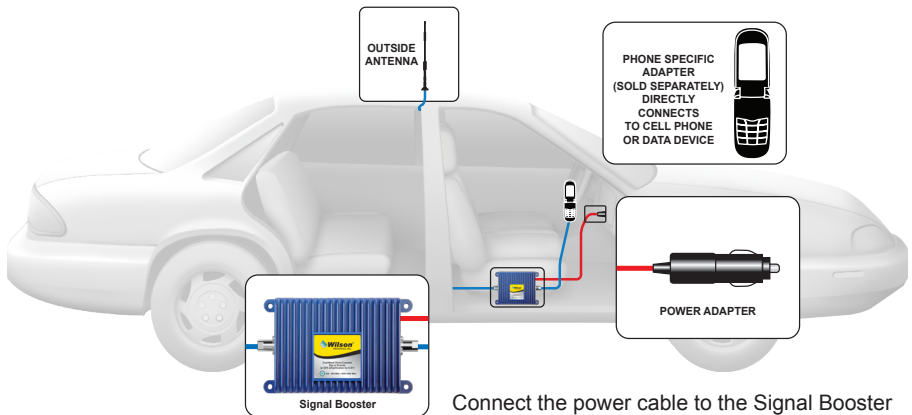
This guide will help you properly install Wilson Electronics Direct Connect Signal Boosters in both in-vehicle and in-building applications. **It is important to read through all of the installation steps for your particular application prior to installing any equipment.** Read through the instructions, visualize where all the equipment will need to be installed and do a soft installation before mounting any equipment. If you do have any questions contact Wilson Electronics Technical Support at 866-294-1660.

How it Works

Wilson Electronics Signal Boosters are small, portable, bi-directional devices that deliver service levels consistent with what would be expected in areas of high cell network coverage. They amplify a weak or shadowed signal in mobile, marine, M2M and in-building applications.

When using a Wilson Electronics Signal Booster in conjunction with Wilson Electronics antennas, the outside antenna will collect the cell tower signal and send it through the cable to the Signal Booster. Cell phones and cellular data cards (laptops) then communicate with the improved signal. When a cellular device transmits, the signal is amplified by the Signal Booster and broadcasted back to the cell tower through the outside antenna.

The outside antenna must be installed vertically. Signal performance will be degraded if the antenna is not vertical.

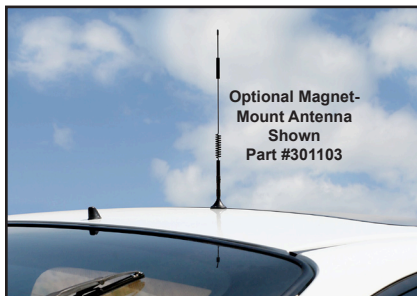


Verify that both the outside antenna and the adapter extension cable are connected to the Signal Booster before powering up the Signal Booster.

Connect the power cable to the Signal Booster input marked "DC 12V IN" and then insert the large end into a power socket or vehicle power adapter.

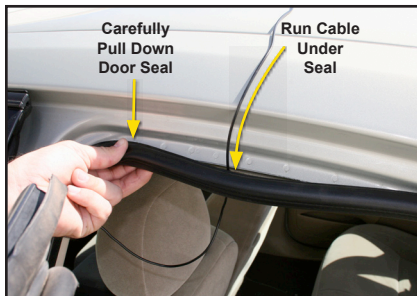
In-Vehicle

Installing an Outside Antenna

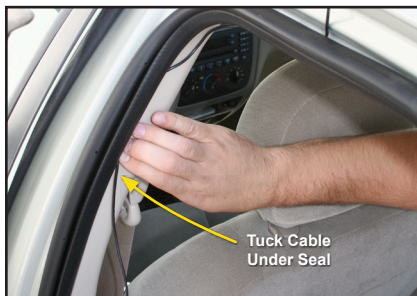


The outside antenna must be installed vertically. Signal performance will be degraded if the antenna is not vertical.

The antenna cable may be ran through the door to the Signal Booster.



For a more professional-looking installation, run the antenna cable under the door seal. Carefully pull down the door seal. Run the cable through the seal and push the seal back into place. This prevents constant wear and tear on the cable as the door opens and closes.



The antenna cable is small enough to easily tuck under the door seal or plastic molding.

In-Vehicle

Installing a Wilson Electronics Signal Booster



Select a location to install the Signal Booster that is away from excessive heat, direct sunlight, moisture and that has proper ventilation.

Recommended installation locations for in-vehicle are:

- Under the seat
- Under the dash

Run the cable from the outside antenna and attach it to the connector labeled "Outside Antenna" on the Signal Booster.

Installing a Wilson Electronics External Adapter

An 18-inch external adapter is required to connect the cell phone or cellular data card to the Signal Booster. The external adapter (sold separately) is cell phone/data card-specific and may be purchased through a local retailer. Refer to Wilson Electronics Adapter Guide to identify the right adapter for your cell phone or cellular data card. The adapter guide is available through a local retailer or visit www.WilsonElectronics.com. The external adapter plugs into the included (in some kits) antenna extension cable and directly into a socket on the cell phone or cellular data card as shown in Figure 1.

The external adapter and the included extension cable (in some kits) are long enough to reach the Signal Booster location. This allows for ease and convenience of use.

Run the extension cable from the external adapter and attach it to the connector labeled "Cellular Phone" on the Signal Booster.



Sample Adapter



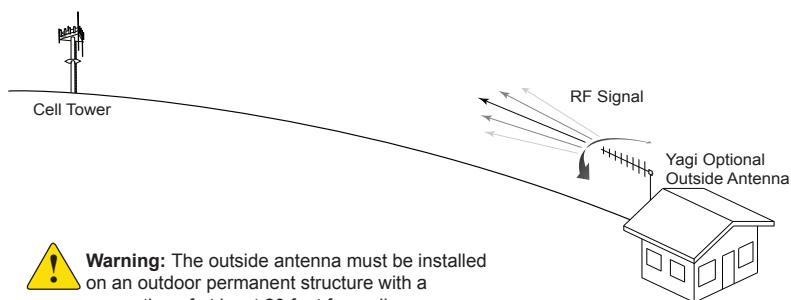
NOTE: Depending on your specific cell phone, the adapter socket may be located beneath a rubber plug.

Figure 1

In-Building

Installing a Wilson Electronics Outside Antenna – In-Building

Select a location on the roof of the building to install the outside antenna that has the most unobstructed line of sight to the cell tower. Follow the specific antenna installation instructions included with the outside antenna. Lightning protection is recommended for all in-building installations (sold separately). Take extreme care to ensure neither you nor the antenna come in contact with any electrical power lines. A Yagi antenna must be installed horizontally with the elements vertical and the drip hole on the bottom. Ensure there are three feet of clearance in all directions surrounding the antenna. To obtain maximum performance, the antenna should point toward the cell tower. Follow the instructions included with the outside antenna.



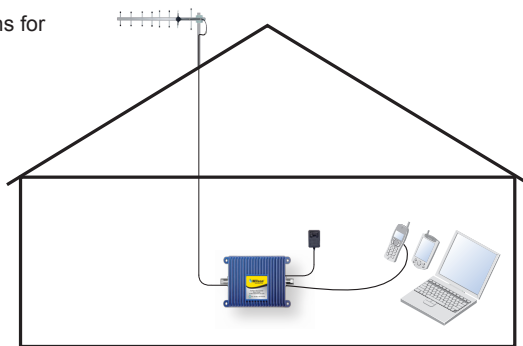
Warning: The outside antenna must be installed on an outdoor permanent structure with a separation of at least 20 feet from all persons during normal operation.

Installing a Wilson Electronics Signal Booster

Select a location to install the Signal Booster that is away from excessive heat, direct sunlight, moisture and that has proper ventilation. Ensure the Signal Booster is installed within six feet of where the cell phone or cellular data card will be used (to accommodate the six-foot adapter extension cable). Run the cable from the Outside Antenna and attach it to the connector labeled "Outside Antenna" on the Signal Booster. Connect the AC/DC power supply (sold separately) to the power input labeled "DC 12 V IN" on the Signal Booster.

Recommended installation locations for in-building are:

- On a wall
- On the ceiling
- Near a power outlet



In-Building

Installing a Wilson Electronics External Adapter

An 18-inch external adapter is required to connect the cell phone or cellular data card to the Signal Booster. The external adapter is cell phone/data card-specific and may be purchased through a local retailer.

Sample
adapter



Refer to Wilson Electronics Adapter Guide to identify the right adapter for your cell phone or cellular data card. The adapter guide is available through a local retailer or visit www.WilsonElectronics.com.

The external adapter plugs into the included six-foot extension cable and directly into a socket on the cell phone or cellular data card as shown in Figure 1 on page 4. (**NOTE:** See the user's manual for your specific phone or data card to determine the socket location.)

Run the extension cable from the external adapter on the cell phone or cellular data card and attach it to the connector labeled "Cellular Phone" on the Signal Booster.

Extension Cable Chart

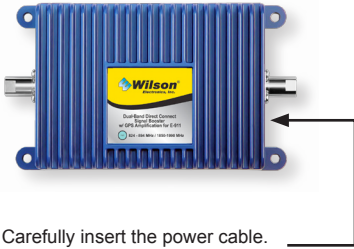
The following Wilson Electronics extension cables are available to help you customize your installation for peak performance.

951101	5' Extension Cable RG58U Low Loss Coax
951102	10' Extension Cable RG58U Low Loss Coax
951103	15' Extension Cable RG58U Low Loss Coax
951104	20' Extension Cable RG58U Low Loss Coax
952320	20' Extension Cable Wilson 400 (9913 Equivalent) Ultra Low Loss Coax
952330	30' Extension Cable Wilson 400 (9913 Equivalent) Ultra Low Loss Coax
952350	50' Extension Cable Wilson 400 (9913 Equivalent) Ultra Low Loss Coax

952375	75' Extension Wilson 400 (9913 Equivalent) Ultra Low Loss Coax
952400	100' Extension Wilson 400 (9913 Equivalent) Ultra Low Loss Coax
952302	2' Extension Wilson 400 (9913 Equivalent) Ultra Low Loss Coax (N-Male to N-Male Ends)
951110	2' Extension RG58U Low Loss Coax (N-Male to FME- Female)

RG58U - FME connectors / 9913 - N connectors

Powering up a Wilson Electronics Signal Booster In-Building/In-Vehicle



Carefully insert the power cable.



Warning: Verify that both the outside antenna and the adapter extension cable are connected to the Signal Booster before powering up the Signal Booster.

For **In-Vehicle**, first connect the power cable to the Signal Booster input marked “DC 12 V IN” and then insert the large end into a 12 V DC power socket or vehicle power adapter.



In-vehicle 12-volt DC power supply (included)

The Signal Booster may remain on all the time; however, leaving the Signal Booster on in a vehicle when it is not running can discharge the battery in a day or two.

A good option is to power the Signal Booster through the ignition switch so that the Signal Booster turns off and on with the vehicle.



In-building AC/DC power supply (optional)
(included in the 810205 kit)

For **In-Building**, first connect the optional AC/DC power supply to the Signal Booster input labeled “DC 12 V IN” and then into a wall outlet.







Warning: Use only a Wilson Electronics power supply. Use of a non-Wilson Electronics product could damage your equipment.

Testing a Wilson Electronics Signal Booster

To test your Signal Booster, go to a weak signal area where your cell phone registers only 1-2 bars without the Signal Booster turned on. Then, connect the Signal Booster to the phone and you should see a signal improvement of 2 or more bars. **Note:** Many phones take up to 20 seconds to reset the bar indicator.

Warnings and Recommendations

-  Warning: Verify that both the outside antenna and the adapter extension cable are connected to the Signal Booster before powering up the Signal Booster.
-  Warning: **RF Safety:** In-vehicle - The outside antenna must be installed with a separation of at least 16 inches from any of the vehicle's occupants or nearby persons and must not be located or operating in conjunction with any other antenna or Signal Booster. Use of a cellular Signal Booster with an antenna gain higher than 5.12 dBi is in violation of FCC regulations, for which the offender is fully liable. All Wilson Electronics mobile antennas are 5.12 dBi or less.
-  Warning: **RF Exposure Compliance:** In-vehicle - All roof-mount antennas should be centrally located on the roof of the vehicle. Glass-mount antennas should be located in the middle of either the front or back windshield. Mirror-mount antennas should be mounted as high above the roof top as possible and leave at least 16 inches of separation from any persons in or around the vehicle.
-  Warning: **RF Safety:** In-Building - The outside antenna must be installed on an outdoor permanent structure with a separation of at least 20 feet from all persons during normal operation.

Lightning protection is recommended for all in-building installations.

NOTE: The aluminum casing of a Wilson Electronics Signal Booster will adjust very quickly to the ambient temperature of its environment. For example, in the summer, when the inside of a car can reach 140 degrees Fahrenheit, the Signal Booster temperature may be 150 degrees or higher. The casing will be hot to the touch, similar to a metal door handle or a steering wheel. Such high temperatures will not damage the Signal Booster, nor do they pose a fire risk to the vehicle. As recommended in these instructions, install the Signal Booster in a location with adequate ventilation, such as under the seat, in the trunk or under the dashboard. Keep the area free of items that could block air flow to the Signal Booster.



About Wilson Electronics

Wilson Electronics, Inc. has been a leader in the wireless communications industry for nearly 40 years. The company designs and manufactures Signal Boosters, antennas and related components that significantly improve cellular telephone signal reception and transmission in a wide variety of applications, both mobile and in-building.

With extensive experience in antenna and Signal Booster research and design, the company's engineering team uses a state-of-the-art testing laboratory, including an anechoic chamber and network analyzers, to fine-tune antenna designs and performance. For its Signal Boosters, Wilson Electronics uses a double-shielded RF enclosure and cell tower simulators for compliance testing.

All products are engineered and assembled in the company's 55,000-square-foot headquarters in St. George, Utah. Wilson Electronics has product dealers in all 50 states as well as in countries all over the world.

30-Day Money-Back Guarantee

All Wilson Electronics products are protected by Wilson Electronics 30-day money-back guarantee. If for any reason the performance of any product is not acceptable, simply return the product directly to the reseller with a dated proof of purchase.

1-Year Warranty

Wilson Electronics Signal Boosters are warranted for one (1) year against defects in workmanship and/or materials. Warranty cases may be resolved by returning the product directly to the reseller with a dated proof of purchase.

Signal Boosters may also be returned directly to the manufacturer at the consumer's expense, with a dated proof of purchase and a Returned Material Authorization (RMA) number supplied by Wilson Electronics. Wilson Electronics shall, at its option, either repair or replace the product. Wilson Electronics will pay for delivery of the repaired or replaced product, within the USA, back to the original consumer.

This warranty does not apply to any Signal Boosters determined by Wilson Electronics to have been subjected to misuse, abuse, neglect, or mishandling that alters or damages physical or electronic properties.

RMA numbers may be obtained by phoning Technical Support at 866-294-1660.

The Manufacturer's rated output power of this equipment is for single carrier operation.

Operation is subject to the following two conditions: (1) This device may not cause interference and (2) this device must accept any interference, including interference that may cause undesired operation of this device.

Disclaimer: The information provided by Wilson Electronics, Inc. is believed to be complete and accurate. However, no responsibility is assumed by Wilson Electronics, Inc. for any business or personal losses arising from its use, or for any infringements of patents or other rights of third parties that may result from its use.

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Signal Booster Specifications

Model Number	811101	811204 810204	812201 GSM ONLY	811701	811901	814001	814021	810205
Frequency	824-894 MHz	824-894 MHz 1850-1990 MHz	824-894 MHz 1850-1990 MHz	806-866 MHz	890-960 MHz 1885-2200 MHz	806-821 MHz 851-866 MHz	806-821 MHz 851-866 MHz	824-894 MHz 1850-1990 MHz
Gain (up/down)	14 dB 10 dB / 10 dB							
Max RF	+ 35 dBm / +15 dBm							
Noise Figure	3.5 dB nominal							
Flatness (up/down)	± 2 dB / ± 2 dB							
Isolation	> 90 dB							
Power Requirements	12 V, 0.5-1.5 A max							
Connectors	FME-Male 50 ohms							
Dimensions	5.5 x 4.3 x 1.4 (inch) / 14 x 10.8 x 3.5 (cm)							
Weight	1.32 lbs / 0.6 kg							



3301 East Deseret Drive, St. George UT 84790

For additional Technical Support visit www.WilsonElectronics.com
or email at: tech@wilsonelectronics.com

Phone: 866-294-1660 Local: 435-673-5021 Fax: 435-656-2432
www.twitter.com/WilsonCellular www.facebook.com/WilsonCellular