

# Amplifier Kit Installation Guide



## SIGNALBOOST™ Mobile Amplifier Kit with Phone Cradle

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**Warning:** 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 amplifier.

### **30-Day Money-Back Guarantee**

All Wilson Electronics products are protected by Wilson's 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 amplifiers 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.

Amplifiers 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 shall, at its option, either repair or replace the product. Wilson Electronics will pay for delivery of the repaired or replaced product back to the original consumer.

This warranty does not apply to any amplifiers 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.

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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## Installation Instructions for the Following Wilson Amplifier Kit:

### **SIGNALBOOST™ Mobile Amplifier Kit with Phone Cradle**

Model #811210 Part #811214

FCC ID: PWO819DA

IC: 4726A-819DA

Patent Pending

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

## Inside this Package



SIGNALBOOST™  
amplifier



Cell Phone  
Cradle Plus



12 V DC  
power supply



Ultra-Slim  
Antenna



Earbud



Magnet-Mount  
Antenna



Air-vent  
Bracket



Adhesive  
Bracket



Adhesive/Screw  
Swivel Bracket

## How it Works

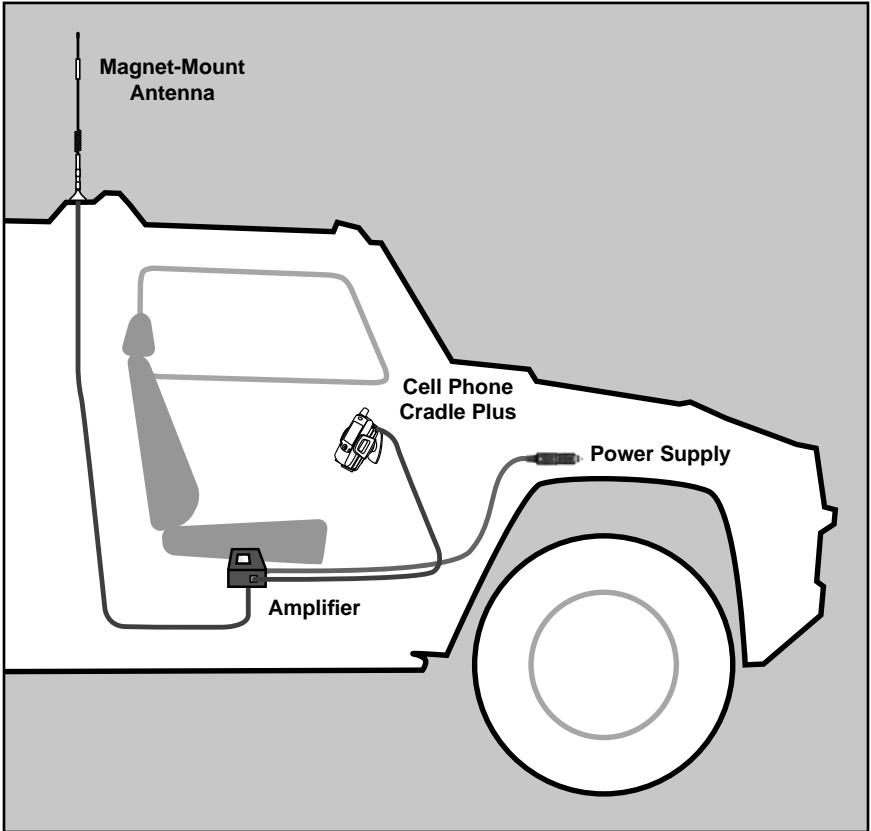
Your new Wilson SignalBoost™ Mobile Amplifier Kit with Phone Cradle includes everything you need to begin enjoying improved cellular performance in mobile applications. This kit will amplify the signals to and from the cell phone that you place in its cradle.

The kit includes the magnet-mount outside antenna, one of Wilson's most popular products, which will collect the signal from the cell tower and send it through the cable to the SignalBoost™ mobile amplifier. The amplifier's state-of-the-art technology is designed to increase your signal up to 10 times, and reduce disconnects and dropouts. The amplified signal is sent to the Cell Phone Cradle Plus, Wilson's versatile phone cradle, which has a signal coupler built right in. Your cell phone then communicates with the improved signal. When the cell phone transmits, the signal goes through the cradle coupler, is then boosted by the amplifier and broadcast back to the cell tower through the outside antenna.

Most importantly, the Cradle Plus provides a convenient place to stow a cell phone and allows the driver to keep both hands on the wheel while using the phone, greatly increasing safety. This kit includes three mounting options for installing the cradle on the dash or console of your vehicle.

### Before Getting Started

This guide will help you properly install Wilson's SignalBoost™ Mobile Amplifier Kit with Phone Cradle. **It is important to read through all of the installation instructions for this kit prior to installing any of the equipment.** Read through this installation guide, visualize where all of the parts will be installed, and do a soft installation before mounting any equipment. If you do not understand the instructions in full, seek professional help, or contact Wilson Technical Support at 866-294-1660.



## Installing the Wilson Magnet-Mount Antenna

To receive the best cell signal, select a location in the center of the vehicle's roof that is 12 inches away from any other antennas and free of obstructions.

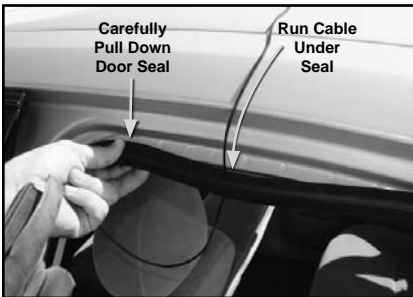


The antenna must be installed vertically. Signal performance will be degraded if the antenna is not vertical.

The antenna cable may be run through the door to the amplifier.



**Warning:** The antenna used with this amplifier must have a separation distance of at least 11 inches from all persons.



For a more professional-looking installation, the antenna cable may be run 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.

## Installing the Wilson SIGNALBOOST™ Mobile Amplifier



**Warning:** Do not plug in the DC power supply until the antenna and Cradle Plus cables are attached to the amplifier.



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

Recommended installation locations for the amplifier are:

- Under the seat
- Under the dash

Run the cable from the antenna and attach it to the FME-Male connector labeled "outside antenna" on the amplifier.



Attach the cable from the Cradle Plus to the FME-Male connector on the amplifier.



**Warning:** Do not plug the amplifier directly into the cell phone or cellular data card using an antenna adapter. It will damage the cell phone or cellular data card.

## Installing the Cradle Plus



### Option 1 - Air Vent Bracket

Insert the two vent clips into the circular hole in the bracket and slide them to each end of the slot. The flat surface of the clips should face upwards.

Slide the bracket clips into the chosen vent until they snap into place. If necessary, use a thin-bladed screwdriver to gently pry the clips apart as they slide into the vent.

Position the moveable arm at the base of the bracket to achieve the desired angle and to provide additional stability for the bracket.



### Option 2 - Adhesive Bracket

Clean the area where the bracket is to be mounted with rubbing alcohol and a soft cloth. Allow to dry.

Peel the backing to expose the adhesive and press the bracket onto the desired location in the vehicle. Note: be sure the bracket is positioned **vertically**, not horizontally.

Allow the adhesive to cure for 24 hours before you attach the cradle.

Note: Once the cradle is attached, you can adjust the angle of the adhesive bracket by applying gentle pressure to the top or bottom of the cradle.



### Option 3 - Adhesive/Screw Swivel Bracket

Clean the area where the bracket is to be mounted with rubbing alcohol and a soft cloth. Allow to dry.

**For an adhesive mount**, peel the backing to expose the adhesive and press the bracket onto the desired location in the vehicle. Allow the adhesive to cure for 24 hours before you attach the cradle.

**For a screw mount**, use an ice pick or awl to punch through the adhesive and expose the four screw holes in the bracket. You must provide the screws of an appropriate size for your particular application. Using the bracket as a template, mark the locations for the screws as shown, drill pilot holes and attach the bracket with screws.

Once the cradle is attached, you can loosen the knurled wheel and swivel the hook to the desired angle, then re-tighten the wheel.

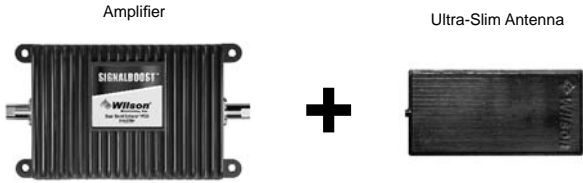
**For best mounting results and long-term performance, we suggest that you choose a flat smooth surface like the console area of your vehicle between the two front seats. If this is not available in your vehicle, you may mount the cradle on the front of the dashboard.**

**If mounting the cradle on a sloped area of the dashboard in your vehicle, please note that gravity may affect the adhesive over time. Use the screw mount for a more permanent attachment.**

### Attaching the Cradle

Once you have installed the mount in the desired location, attach the cradle by aligning the rectangular hole on its back with the hook on the mount. Grasping the sides of the cradle, slide it downward approximately  $\frac{1}{4}$  inch into place.

## Attaching the Wilson Ultra-Slim Antenna



Cellular data card

The Ultra-Slim must be placed directly on the cell phone or cellular data card to work properly. Attach the Ultra-Slim to the cell phone or cellular data card with the VELCRO®.

The Ultra-Slim cable is long enough to reach the amplifier location. This allows for ease and convenience of use.

To adjust the Ultra-Slim for the best signal, go to a weak signal location where your cell phone registers only 1-2 bars without the Ultra-Slim connected. (Be sure the amplifier is turned off when checking for low signal.) Then, attach the Ultra-Slim to the phone, power up the amplifier 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.

To maximize performance, attach the Ultra-Slim as close as possible to the original antenna on your cell phone or cellular data card.

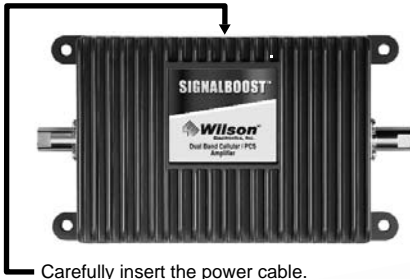
For cell phones with an internal antenna, place the Ultra-Slim on the back of the phone near the top. (Figure 1) **NOTE:** Certain phones, such as the Motorola RAZR, have internal antennas at the base, rather than the top, in which case the Ultra Slim should be attached at the bottom rear of the phone.

For cell phones with an external antenna, place the Ultra Slim directly below the phone's original antenna. (Figure 2)

If you have any questions as to the location of the antenna on your phone, call Wilson Technical Support at 866-294-1660, 435-673-5021 or visit [www.wilsonelectronics.com](http://www.wilsonelectronics.com).



## Powering up the Amplifier



Carefully insert the power cable.

Make sure both the outside antenna and Cradle Plus (or universal connector) cables are connected before powering up the amplifier.

Connect the power cable from the DC power supply to the amplifier input marked "Power" and insert the large end into DC power socket (the cigarette lighter outlet).



12 V DC power supply (included)



**Warning:** Use only Wilson power supply units. Use of a non-Wilson product may damage your equipment.



AC/DC power supply (not included)

**IMPORTANT:** Do not power up the amplifier unless the antenna and Cradle Plus cables are attached to the amplifier.


The amplifier may remain on all the time. However, leaving the amplifier 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 amplifier through the ignition switch so the amplifier is turned on and off with the vehicle.


## Connecting the Earbud

Plug the earbud into your cell phone and carefully place the earbud's speaker into your ear.

## Warnings and Recommendations

 Warning: Do not plug the amplifier directly into the cell phone or cellular data card using an antenna adapter. It will damage the cell phone or cellular data card.

 Warning: Do not plug in the power supply until the outside antenna and Cradle Plus (or Ultra-Slim Antenna) cables are attached to the amplifier.

 Warning: The antenna must be installed with a separation of at least 11 inches from nearby persons and must not be located or operating in conjunction with any other antenna or amplifier. Use of this amplifier with an antenna gain higher than 6.12 dBi is in violation of FCC regulations for which the offender is fully liable. All Wilson mobile antennas are 6.12 dBi or less.

Recommended amplifier installation locations for a vehicle are:

- Under the seat
- Under the dash

Power the amplifier through the ignition switch so the amplifier is turned on and off with the vehicle.

For best mounting results and long-term performance of the Cradle Plus, we suggest that you choose a flat smooth surface like the console area of your vehicle between the two front seats. If this is not available in your vehicle, you may mount the cradle on the front of the dashboard.

If mounting the cradle on a sloped area of the dashboard in your vehicle, please note that gravity may affect the adhesive over time. Use the screw mount for a more permanent attachment.

## About Wilson Electronics



Wilson Electronics, Inc. has been a leader in the wireless communications industry for nearly 40 years. The company designs and manufactures amplifiers, 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 amplifier 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 amplifiers, Wilson uses a double electrically insulated RF enclosure and cell site simulators for compliance testing.

All products are engineered and assembled in the company's 50,000-square-foot headquarters in St. George, Utah. Wilson has product dealers in all 50 states as well as Canada and Mexico, Central and South America.



# Amplifier Specifications

		Dual Band 800/1900 MHz Specifications	
<b>Model Number</b>		811210	
Connectors		FME-Male	
Impedance (input/output)		50 Ohms	
Dimensions		5 x 3.5 x 1.2 inch or 12.7 x 8.9 x 3 cm	
Weight		1.03 lbs or 0.468 kg	
Frequency		824-894 MHz / 1850-1990 MHz	
<b><sup>1</sup>Passband Gain (nominal)</b>			
	800 MHz (uplink/downlink)	26 dB / 26 dB	
	1900 MHz (uplink/downlink)	26 dB / 26 dB	
<b><sup>2</sup>20 dB Bandwidth (nominal)</b>			
	800 MHz (uplink/downlink)	53 MHz / 62 MHz	
	1900 MHz (uplink/downlink)	112 MHz / 110 MHz	
<b><sup>3</sup>Power output for single cell phone (uplink)</b>			
		800 MHz	1900 MHz
	CDMA	+33.0 dBm	+29.3 dBm
	GSM	+34.3 dBm	+30.3 dBm
	EDGE	+34.1 dBm	+30.2 dBm
	AMPS	+30.1 dBm	
<b>Power output for single received channel (downlink)</b>			
		800 MHz	1900 MHz
	CDMA	+5.1 dBm	+6.8 dBm
	GSM	+3.2 dBm	+4.4 dBm
	EDGE	+3.2 dBm	+4.6 dBm
	AMPS	+3.2 dBm	
<b><sup>4</sup>Power output for multiple received channels (downlink).</b>			
The maximum power is reduced by the number of channels:		Maximum Power	
	Number of channels	800 MHz	1900 MHz
	2	+1.0 dBm	+1.7 dBm
	3	-2.5 dBm	-1.8 dBm
	4	-5.0 dBm	-4.3 dBm
	5	-7.0 dBm	-6.3 dBm
	6	-8.5 dBm	-7.8 dBm
<b>Noise Figure (typical)</b>			
		3.5 dB nominal	
<b>Isolation</b>			
		uplink/downlink more than 50 dB	
<b>Power Requirements</b>			
		12 V, 2 A (subject to uplink power)	

- Notes:
1. Nominal gain is the maximum gain at any frequency in the passband.
  2. Nominal bandwidth is the difference between two frequencies that are adjacent to the passband where the amplification is 20 dB lower than the passband amplification. One of the frequencies is lower than the passband and the other is higher.
  3. The Manufacturer's rated output power of this equipment is for single carrier operation. For situations when multiple carrier signals are present, the rating would have to be reduced by 3.5 dB, especially where the output signal is re-radiated and can cause interference to adjacent band users. This power reduction is to be by means of input power or gain reduction and not by an attenuator at the output of the device.
  4. The maximum power for 2 or more simultaneous signals will be reduced by 6 dB every time the number of signals is doubled.



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 For additional Technical Support visit  
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 Phone: 866-294-1660 Fax: 435-656-2432