Signal Booster Installation Guide

MobilePro®

Dual-Band Wireless Smart Technology II™ Signal Booster with Built-in Antenna

Contents:

Appearance of device and accessories may vary.

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.

Wilson® Electronics, Inc.

Installation Instructions for the Following Wilson Electronics Signal Booster:

MobilePro® Dual-Band Wireless Smart Technology II™ Signal Booster

Model # 271220 FCC ID: PWO271220SA IC: 4726A-271220SA
Model # 271240 FCC ID: PWO271240SA IC: 4726A-271240SA
Model 801540 900 MHz is not for sale in U.S. or Canada

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

Inside This Package


Wireless Signal Booster


USB power cable


Vehicle power adapter supply with USB connection

Included In Some Kits

(301725) for 900 MHz

12" Magnet Mount Antenna **(301125)**


Mini-Magnet Mount Antenna **(301126)**


AC DC Power Supply **(859969)**

Carrying case included in some kits


Air-vent Bracket


Adhesive Bracket


Adhesive/Screw Swivel Bracket

All 3 available in 901134 mount kit

Also Available Together In The Home/Office Accessory Kit (859970)

HOME/OFFICE ACCESSORY KIT


Adjustable Desk Mount **(901137)**


AC Power Supply **(859969)**


Antenna Window Mount **(901128)**

This accessory kit adds the Desk Mount. It increases the available mounting options of your Wilson Electronics MobilePro. ***Carrying Case included.***

Also Available Together In The Home/Office Accessory Kit (859952)

MobilePro® Home/Office Accessory Kit


AC Power Supply **(859969)**


Antenna Window Mount **(901128)**

The MobilePro Home /Office Accessory Kit contains components needed for improving the MobilePro signal power at homes, offices, hotel rooms and airports. ***Carrying Case included.***

Mounting Options


Adjustable Desk Mount **(901137)**


Gooseneck Suction Cup Cradle Mount **(901120)**


Cup Holder Cradle Mount **(901130)**

Optional Antennas


Marine Antenna Dual-Band **(301130)**


Trucker Mount Dual-Band **(301101)**


RV / Trucker Spring-Mount Antenna **(301133)**


NMO Mount Dual-Band **(301104)**

Appearance of device and accessories may vary.

To purchase call 800-204-4104 or go to *www.WilsonElectronics.com.*

Contact Wilson Electronics Technical Support Team with any questions at 866-294-1660 or email: tech@wilsonelectronics.com. Hours: 7 am to 6 pm MST.

How it Works

Your new Wilson Electronics Signal Booster has been carefully engineered to significantly improve the performance of your cell phone or cellular data card in mobile and in-building applications. Together with an Outside Antenna, the Signal Booster's state-of-the-art technology is designed to increase your signal more than 20 times, reduce dropped calls, and increase data communication rates needed for 3G technologies.

The Outside Antenna will collect the cell tower signal and send it through the cable to the Signal Booster. The signal is then boosted and sent through the built-in Inside Antenna. Your cellular device then communicates with the improved signal. When the cellular device transmits, the signal goes through the Inside Antenna, is amplified by the Signal Booster and transmitted back to the cell tower through the Outside Antenna.

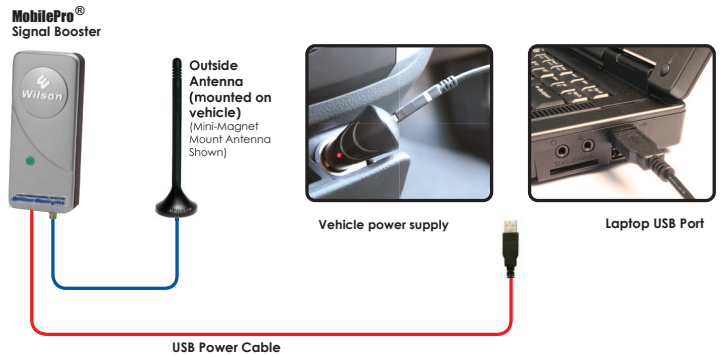
Wilson Electronics manufactures a wide variety of Outside Antennas to help you customize your Signal Booster for your specific application. Several are shown on page 1. See your dealer or visit *www.WilsonElectronics.com* to purchase.

In-Vehicle

Before Getting Started

This guide will help you properly install Wilson Electronics MobilePro Dual-Band Wireless Signal Booster. **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 not understand the instructions in full, contact Wilson Electronics Technical Support at 866-294-1660**.**

Installation Diagram - Vehicle



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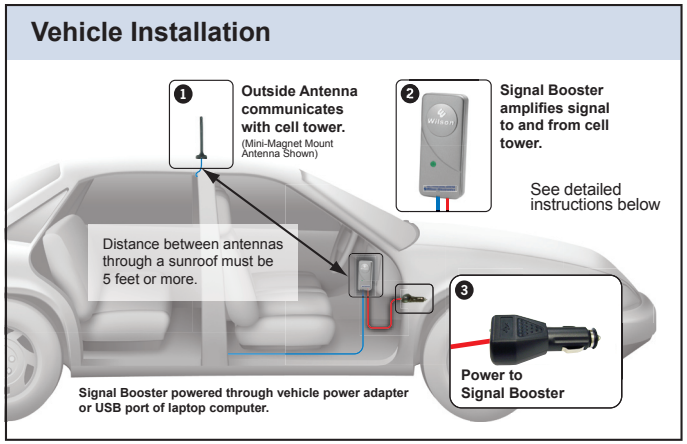
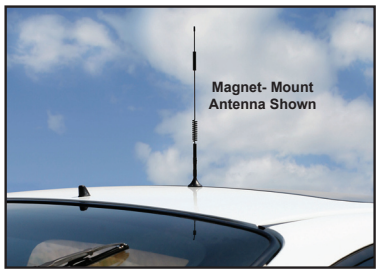
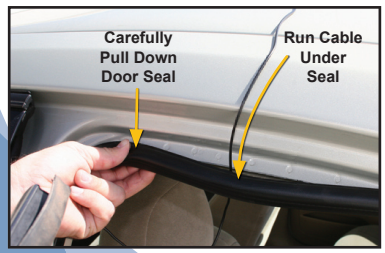


Installing a Wilson Electronics Outside Antenna

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





The Outside 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 Signal Booster.

Warning: The Outside Antenna and Signal Booster must have a separation of at least 8 inches from all persons during normal operation.

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.

Route the cable from the Outside Antenna and attach it to the connector labeled "ANTENNA" on the Signal Booster.

Installing a Wilson Electronics MobilePro® Signal Booster

The Wilson Electronics MobilePro Signal Booster is designed for installation on the dashboard of your vehicle, using the supplied adhesive bracket. Attach the bracket in a suitable location.

NOTE: *Allow the adhesive on the bracket to set for 24 hours before mounting your MobilePro Signal Booster to the bracket. Also, be sure to select a location for the Signal Booster that does not inhibit your ability to operate the vehicle safely.*

Once you have installed the bracket, attach the MobilePro Signal Booster by aligning the hole on the back with the hook on the bracket. Grasping the sides of the Signal Booster, slide it downward approximately ¼ inch into place.

Alternative Signal Booster Installation for Weak Signal Areas

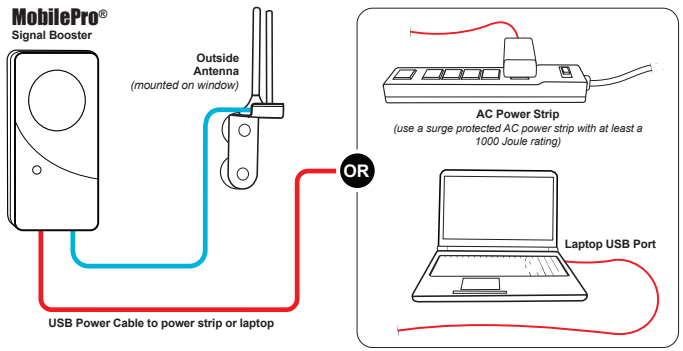
The Wilson Electronics MobilePro Signal Booster performs better the closer it is to the cell phone (with minimum 6-12 inch separation). Thus, if you regularly drive through particularly weak signal areas, you should consider installing the Signal Booster on the back of the driver's side headrest.

To do so, attach a strip of Velcro (available at most hardware or fabric stores) to the back of the Signal Booster and adhere the matching strip to the back of headrest. Visually align the strips of Velcro and press the Signal Booster against the headrest so that it is held in place by the Velcro.

Run the cable from the Outside Antenna and attach it to the SMA connector labeled "ANTENNA" on the Signal Booster. Be sure that the cable does not interfere with your ability to operate the vehicle safely.

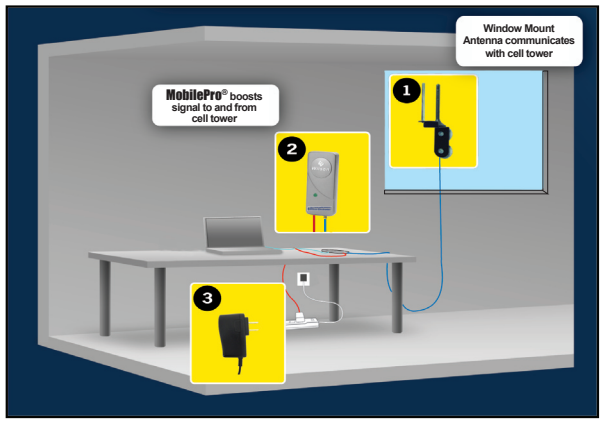
An in-building accessory kit is available (if your kit did not contain the necessary equipment), from Wilson Electronics. Various kits are available, visit *www.WilsonElectronics.com* to see the selection of in-building accessory kits.

Installation Diagram - In-Building



In-Building Installation

⚠ ***Warning:*** The Outside Antenna must have a separation of at least 8 inches from all persons during normal operation.



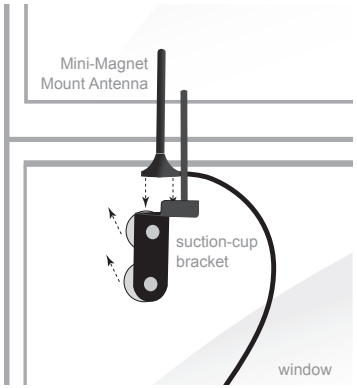
Contact Wilson Electronics Technical Support Team with any questions at 866-294-1660 or email: tech@wilsonelectronics.com. Hours: 7 am to 6 pm MST.

In-Building

Installing a Wilson Electronics Outside Antenna

Follow the specific antenna instructions included with the Outside Antenna (sold separately except for certain kits). These instructions assume that you are using a Wilson Electronics Magnet-Mount or Mini-Magnet Mount Antenna and the optional suction-cup window bracket.

To receive the best signal, select a window on the side of your building where your outside signal is the strongest.



Attach the suction-cup bracket to the inside of a window so that the cable will reach the Signal Booster location. Place the bracket as high on the window as possible for best performance.

⚠ ***Warning:*** The Outside Antenna must have a separation of at least 8 inches from all persons during normal operation.

Once the bracket is in place, attach the magnet base of the antenna to the flat surface of the bracket. ***Note:*** *The antenna must be installed vertically. Signal performance will be degraded if the antenna is not vertical.*

Installing the Wilson Electronics MobilePro® Signal Booster

The Wilson Electronics MobilePro® Signal Booster may be placed in any convenient indoor location, such as a desk or tabletop. The closer the cell phone or laptop data card is to the Signal Booster (with its built-in Inside Antenna), the better the performance will be. (Ensure that the cellular device and the Signal Booster have a minimum 6-12 inch separation).

Attaching the Antenna

Once you have selected the location for the Signal Booster, run the cable from the Outside Antenna and attach it to the connector labeled “ANTENNA” on the Signal Booster. ***Note:*** *The Signal Booster and the Outside Antenna must have a minimum separation of 8 feet to prevent oscillation.*

Contact Wilson Electronics Technical Support Team with any questions at 866-294-1660 or email: tech@wilsonelectronics.com. Hours: 7 am to 6 pm MST.

Powering up the Wilson Electronics MobilePro® Signal Booster

Carefully insert the USB power cable.

(Included in some kits)

IMPORTANT: Do not power up the Signal Booster unless the Outside Antenna cable is attached to Signal Booster.

In a Vehicle

Make sure the Outside Antenna cable is connected before powering up the Signal Booster.

Connect the mini-USB plug on the power cable to the Signal Booster port marked by the USB symbol. Connect the other end of the power cable to the USB port on the vehicle power supply and insert the adapter into the vehicle power outlet of your vehicle. (If you are using a laptop to power your Signal Booster, insert the other end of the power cable into a USB port on the laptop and power up the laptop).

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.

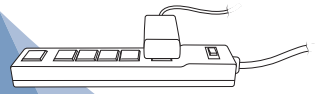
In a Building

Make sure the Outside Antenna cable is connected before powering up the Signal Booster.

Connect the mini-USB plug on the AC adapter cable to the Signal Booster port marked by the USB symbol. Connect the other end of the cable to a surge protector power strip (see diagram below). (If you are using a computer to power your Signal Booster, use the supplied USB cable).

⚠ ***Warning:*** *Use only Wilson Electronics power supplies.*

IMPORTANT NOTICE



- It is very important to power your Signal Booster using a surge protected AC Power Strip with at least a **1000 Joule rating.**
- Failure to do this will void your warranty in the event of a power surge or lightning strike.

Understanding the Signal Booster Light

If the light turns red, an oscillation (feedback) has been detected and the Signal Booster has powered down. The Outside Antenna needs to be moved farther from the built-in antenna in the Signal Booster. In a vehicle installation, move the Outside Antenna on the roof of the car to the rear of the car, but at least 12 inches from the rear or side windows. In a building installation, move the Signal Booster farther from the Outside Antenna. To reset the Signal Booster disconnect and then reconnect the power supply.

If the light is now green, the Signal Booster is working properly. If the red light is still on, move the antenna farther away and repeat the process.

In a vehicle, always use a Magnet-Mount or roof-mount antenna. Do not use a Glass-Mount Antenna, as oscillation (feedback) may cause continuous shut-down of the Signal Booster.

Warnings

⚠ Warning: Do not plug the Signal Booster directly into the cell phone or cellular data card using an antenna adapter. It may damage the cell phone or cellular data card.

⚠ Warning: Do not plug in the power supply until the Outside Antenna cable is attached to the Signal Booster.

⚠ Warning: **RF Safety:** The Outside Antenna must be installed with a separation of at least 8 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. All roof-mount antennas should be centrally located on the roof of the vehicle. Use of this cellular Signal Booster with antennas other than those illustrated could be hazardous. Before using other antennas, contact Wilson Electronics Technical Support at 886-294-1660.

⚠ Warning: **Separation of Inside and Outside Antennas is very important:** In a vehicle, the metal roof acts as a barrier and helps shield the two antennas from each other, preventing oscillation. If the vehicle has a sunroof, it is important to keep the Outside Antenna at least 12 inches from the edge of the sunroof.

About Wilson Electronics

Wilson Electronics, Inc. has been a leader in the wireless communications industry for over 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, mobile (marine, RV, vehicles) and in-building (home, office, M2M).

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 electrically insulated RF enclosure and cell tower simulators for compliance testing.

Wilson Electronics Signal Boosters feature patent Smart Technology II™ that enables them to automatically adjust their power based on cell tower requirements. By detecting and preventing oscillation (feedback), signal overload and interference with other users, these Smart Technology II™ Signal Boosters improve network cell phone areas without compromising carrier systems.

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 around 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 back to the original consumer if within the continental USA.

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.

Failure to use a surge protected AC Power Strip with at least a 1000 Joule rating will void your warranty.

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

This device complies with Part 15 of FCC rules. The transaction is subject to two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by Wilson Electronics could void the authority to operate this equipment.

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.

One or more of the following U.S. Patent numbers may apply to the Signal Booster in this product – D596,614; D596,615; D563,381;7,729,669; 7,486,929; 7,729,656; 7,409,186; 7,783,318; 7,684,838; 12,714,994.

Signal Booster Specifications

	Dual-Band Specifications	Dual-Band Specifications	Single-Band Specifications
Model Number	271220	271240	801540
Connector	SMA Female	SMA Female	SMA Female
Impedance (input/output)	50 ohms	50 ohms	50 Ohms
Dimensions	5.2 X 2.7 X 1.2 inch or 13.2 X 6.9 X 3.1 cm	5.2 X 2.7 X 1.2 inch or 13.2 X 6.9 X 3.1 cm	5.2 X 2.7 X 1.2 inch or 13.2 X 6.9 X 3.1 cm
Weight	3 oz or 83 Grams	3 oz or 83 Grams	3 oz or 83 Grams
Frequency	824-894 MHz / 1850-1990 MHz	824-894 MHz / 1850-1990 MHz	880-915 MHz / 925-960 MHz
[1]Passband Gain (nominal)			
800 & 1900 (uplink & downlink)	40 dB (typical) / 50 dB (maximum)		
900 MHz (uplink/downlink)			41 dB (typical)/ 43 dB (maximum)
800 MHz uplink		40 dB (typical) / 46 dB (maximum)	
800 MHz downlink		42 dB (typical) / 49 dB (maximum)	
1900 MHz uplink		44 dB (typical) / 50 dB (maximum)	
1900 MHz downlink		43 dB (typical) / 50 dB (maximum)	
[2]20 dB Bandwidth (nominal)			
800 MHz (uplink/downlink)	43 MHz / 45 MHz (maximum)	47 MHz / 45 MHz (maximum)	
900 MHz (uplink/downlink)			45 MHz / 41 MHz (maximum)
1900 MHz (uplink/downlink)	90 MHz / 89 MHz (maximum)	101 MHz / 87 MHz (maximum)	

Power output for single cell phone (uplink)	800 MHz	1900 MHz	800 MHz	1900 MHz	900 MHz
CDMA	31.4 dBm	30.1 dBm	24.6 dBm	21.8 dBm	
GSM	26.9 dBm	26.3 dBm	25.2 dBm	20.8 dBm	31 dBm
EDGE	26.0 dBm	25.1 dBm	25.3 dBm	21.8 dBm	26 dBm
WCDMA	31.3 dBm	30.9 dBm	23.0 dBm	20.9 dBm	
AMPS	26.6 dBm				

[3]Power output (uplink) for multiple cell phones:	Number of cell phones	Maximum Power[3] 800 MHz	Maximum Power[3] 1900 MHz	Maximum Power[3] 800 MHz	Maximum Power[3] 1900 MHz	
	2	18.8 dBm	18.5 dBm	21.4 dBm	18.9 dBm	
	3	15.3 dBm	14.9 dBm	17.9 dBm	15.4 dBm	
	4	12.8 dBm	12.4 dBm	15.4 dBm	12.9 dBm	
	5	10.9 dBm	10.5 dBm	13.5 dBm	11.0 dBm	
	6	9.3 dBm	8.9 dBm	11.9 dBm	9.4 dBm	

Power output for single received channel (downlink)	800 MHz	1900 MHz	800 MHz	1900 MHz	900 MHz
CDMA	5.6 dBm	1.8 dBm	12.9 dBm	11.1 dBm	
GSM	0.7 dBm	-2.7 dBm	12.1 dBm	11.0 dBm	9.5 dBm
EDGE	-2.5 dBm	-6.4 dBm	12.0 dBm	10.8 dBm	8.0 dBm
WCDMA	-2.8	-1.0 dBm	10.3 dBm	11.5 dBm	
AMPS	-2.6 dBm				

[4]Power output for multiple received channels (downlink). The maximum power is reduced by the number of channels:	Number of channels	Maximum Power[3] 800 MHz	Maximum Power[3] 1900 MHz	Maximum Power[3] 800 MHz	Maximum Power[3] 1900 MHz	
	2	7.0 dBm	0.2 dBm	10.5 dBm	8.7 dBm	
	3	3.5 dBm	-3.4 dBm	7.0 dBm	5.1 dBm	
	4	1.0 dBm	-5.9 dBm	4.5 dBm	2.6 dBm	
	5	-1.0 dBm	-7.8 dBm	2.5 dBm	0.7 dBm	
	6	-2.6 dBm	-9.4 dBm	0.9 dBm	-0.9 dBm	

Noise Figure (typical uplink)	3 dB nominal
Isolation	> 90 dB
Power Requirements	5.5 V DC, 0.9A

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 for every doubling of the number of signals.

Wilson® Electronics, Inc.

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