

Signal Booster Installation Guide



Sleek®
Sleek® 4G V
Sleek® 4G A

Cell Phone Signal Booster with Built-in Antenna

U.S. Patent Nos. – D626,953; 7,221,967; 7,729,669;
7,486,929; 7,729,656; 7,409,186; 7,783,318; 7,684,838

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To boost your phone's signal power, the phone must be placed in the Sleek cradle. For best results, use a Bluetooth® headset or hands free device, while the phone remains in the Sleek.

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 Sleek.

Appearance of device and accessories may vary.

 **Wilson**®
Electronics, Inc.

Sleek®

Model #2B5225 FCC: PWO2B5225 IC: 4726A-2B5225

Sleek® 4G-A operates on 700 MHz Band 12/17 (Band 12/17 is AT&T® LTE) Model #2B5325 COMING SOON

Sleek® 4G-V operates on 700 MHz Band 13 (Band 13 is Verizon Wireless™ LTE) Model #2B5125 FCC: PWO2B5125

FCC requires to never use the cell phone in the cradle next to your ear.

Inside this Package



Sleek® Cellular Signal Booster



DC Plug-In Power Supply & USB cable



Mini-Magnet Mount Antenna (included in some kits)



Adjustable Arms



Vehicle Dash Adhesive Mounting Bracket

Antenna Options

Although the convenient Mini-Magnet Mount Antenna may have been included with your kit, Wilson Electronics offers a wide variety of Outside Antennas to help you customize your Signal Booster for a specific application. All models shown below double the power to the cell tower compared to the Mini-Magnet antenna. See your dealer or visit www.WilsonElectronics.com for more information.



12" Magnet Mount Antenna (301125)



Trucker Antenna (301101)

Designed for mirror mounting on large trucks.

Mounts on Wilson 3/8" mounts: 901104 and 901106

* Must utilize 971119 Adapter (SMA-FME)



NMO Mount Antenna (301104)

For permanent vehicle roof mount on cars and pickup trucks.

Ideal for mounting on non-metal surfaces.

Mounts on Wilson NMO style mounts: 901101, 901102, and 901103

* Must utilize 971119 Adapter (SMA-FME)



RV Antenna (301133)

* Must utilize 971119 Adapter (SMA-FME)

Accessories for your Sleek®



AC Power Supply *(859969)



Antenna Window Mount (Used with Mini-Magnet Mount Antenna) *(901128)



Adjustable Desk Mount *(901137)

* All 3 available together in the Home Accessory Kit - 859970 Carrying case included



Mobile Power Supply (859984)



Gooseneck Suction Cup Cradle Mount (901120)



Cup Holder Cradle Mount (901130)



Vehicle Dash Mounting Kit -Rugged/Screw Mount-Adhesive Mount-Vent Clip Mount- (901134) (included in some kits)

Appearance of device and accessories may vary.

(This product is not marketed by Verizon Wireless or AT&T)

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

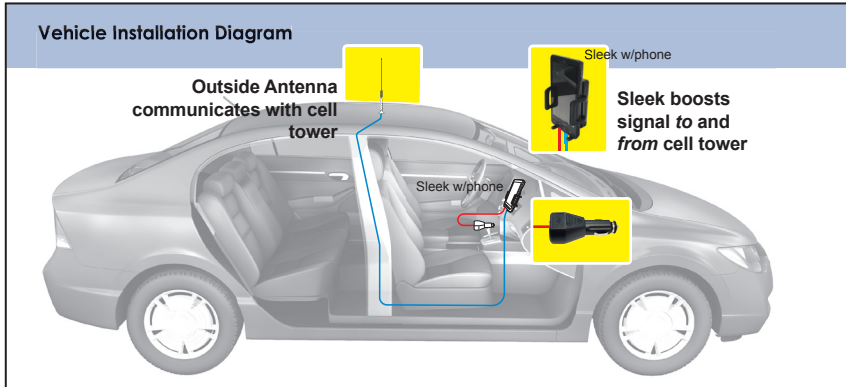
General

Your Wilson Electronics Sleek has been carefully engineered to significantly improve the performance of your phone. Together with an Outside Antenna, the Sleek's state-of-the-art circuitry is designed to increase your phone's signal to and from the cell tower. The Sleek reduces disconnects and dropouts and increases data communication rates on 2G, 3G networks and 4G networks (in some models).

How it Works

With the phone in the cradle and while using a wireless Bluetooth headset (or hands free device) the Outside Antenna collects the cell tower signal and sends it through the cable to the Sleek. The signal is then boosted by the Sleek and sent to the phone. When the phone transmits, the signal is picked up wirelessly and boosted by the Sleek and transmitted back to the cell tower through the Outside Antenna.

NOTE: The cell phone must be placed in the cradle to work properly.



Warning: DO NOT use phone covers that have chrome or any other metallic surface. It may block cellular signals

Vehicle Installation

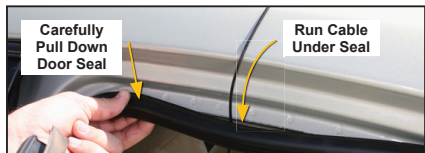
1. Install the Outside Antenna

To receive the best cell signal, select a location for the Outside Antenna that is preferably in the center of the vehicle's roof, 12 inches away from any other antennas, free of obstructions, and at least 6 inches from the rear or side windows or sunroof.



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

The antenna cable is small yet strong enough that it may be shut in most vehicle doors without damaging the cable.



For a more professional looking installation, run the antenna cable under the door seal. Carefully pull down the door seal. Run the cable under 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.



RF Safety Warning: The Outside Antenna must be either a Wilson Electronics Magnet-Mount or Mini-Magnet Mount antenna and requires at least an 8 inch separation distance from all persons. Other Outside Antennas may be used with fixed building installations provided that (a) they are located with at least a 30 inch separation distance from all persons, (b) their gain less cable loss does not exceed 15 dBi, and (c) they are not operating in conjunction with any other antenna or Signal Booster.

2. Attach the Mounting Bracket

A mounting bracket is provided for attaching the Sleek to your vehicle's dash. Other options are also available from Wilson Electronics.



ADHESIVE BRACKET- Included in this package

1. Clean the area where the bracket is to be mounted with the supplied alcohol wipe. Allow to dry.
2. Peel the backing to expose the adhesive and press the bracket onto the desired location in the vehicle. **Note:** Be sure the tab is positioned vertically, not horizontally.
3. Allow the adhesive to cure for 24 hours before you attach the Sleek.

3. Attach the Sleek® to the Bracket

Once you have installed the bracket in the desired location, and waited 24 hours for adhesive to cure, attach the Sleek by aligning the rectangular hole on its back with the tab on the mount bracket, grasping the sides of the Sleek, and sliding it downward approximately ¼ inch into place.

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 Sleek. The bracket is designed to swivel when the knurled nut is loosened for greater adjustability of the Sleek viewing angle. To lock bracket into position, tighten large nut.



4. Attach the Outside Antenna cable to the Sleek®

Attach the cable from the Outside Antenna to the antenna connector on the Sleek. (See Figure 1)

Power up the Wilson Electronics Sleek®

Accessory port to power your phone, some adapters available through Wilson Electronics at 866-294-1660. (See Figure 2)

Connect the mini-USB plug on the power cable to the Sleek's mini USB port located on the bottom of the Sleek and insert the adapter into the vehicle power adapter of your vehicle. The Sleek may remain on all the time. However, leaving the Sleek on in a vehicle when it is not running can discharge the battery in a day or two.

Note: The 12V DC power source on many vehicles is shut off with the ignition key.



Warning: Use only the supplied Wilson Electronics power supply.



Warning: Make sure the Outside Antenna cable is connected before powering up the Sleek.

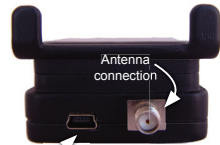


Figure 1

Sleek Power port. Connect the Wilson Electronics's power supply



Figure 2

Accessory USB Power port

Adjusting the Sleek® Arms

Included with your Sleek are various sized arms, which will provide you with multiple options to customize the Sleek to fit your phone.



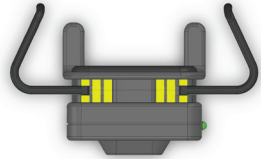
1. Change arms

Gently grab the arm and lift upward until the arm slides free from the Sleek.



2. Reposition arms

Position the arm above a different slot on the Sleek (indicated by the yellow in the drawing). Gently slide the arm down until the arm is firmly in place.



NOTE: The cell phone must be placed in the Sleek to work properly. Use a Bluetooth or wired hands free device.

Understanding the Sleek® Lights

Separation of the Sleek and the Outside Antenna is very important. In a vehicle, the metal roof acts as a barrier and helps shield the two antennas from each other, preventing oscillation (feedback).

Oscillation can occur when the roof mounted antenna is too close to the Sleek inside the vehicle. An oscillation (or feedback) in the Sleek is similar to when a microphone is too close to a speaker in a sound system, resulting in a loud whistle. An oscillation in the Sleek, if allowed to occur, can affect nearby cell towers' ability to handle calls.

Green light is on : Sleek is operating properly

SYMPTOM: No light, or light always off

1. Make sure that the power supply for the Sleek is functioning properly, by making sure the light located on the power supply is lit.
2. If the DC plug-in power supply is properly inserted, but the plug's light doesn't come on, then check the 12 volt power from the car socket, and check the fuse in the DC plug-in power supply.



SYMPTOM: Red light is on

1. If the light is red, the Sleek has powered down to protect the cell tower. See section above "Separation of Sleek and the outside antenna is very important." If the light turns red, the Sleek has powered down to protect the cell tower from oscillation. The red light indicates the outside roof mounted antenna needs to be moved farther from the Sleek. In a vehicle installation, move the Outside Antenna on the roof of the car farther to the rear of the car, but at least 6 inches from the rear or side windows or sunroof. To reset the Sleek, disconnect and reconnect the power supply. If the light is now green, the Sleek is working properly. If the red light is still on, move the Outside Antenna farther away and repeat the process.

Troubleshooting

SYMPTOM: No increase in bars

1. Make sure that the antenna connector is tight.
2. **The cell phone must be placed in the Sleek cradle to amplify properly.**
3. Call Wilson Electronics Technical Support at 866-294-1660.

Warning: DO NOT use phone covers that have chrome or any other metallic surface. It may block cellular signals

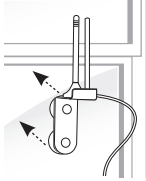
Contact Wilson Electronics Technical Support Team with any questions at 866-294-1660
or email: tech@wilsonelectronics.com. Mon.- Fri. Hours: 7 am to 6 pm MST.

In-Building Installation

Installing a Wilson Electronics Outside Antenna in a Building

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 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 location of the Sleek. Place the bracket as high on the window as possible for best performance.

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 Sleek® Signal Booster in a Building

The Wilson Electronics Sleek may be placed in any convenient indoor location, such as a desk or tabletop. The cell phone or data card must be in the cradle and a Bluetooth headset used for voice communications.

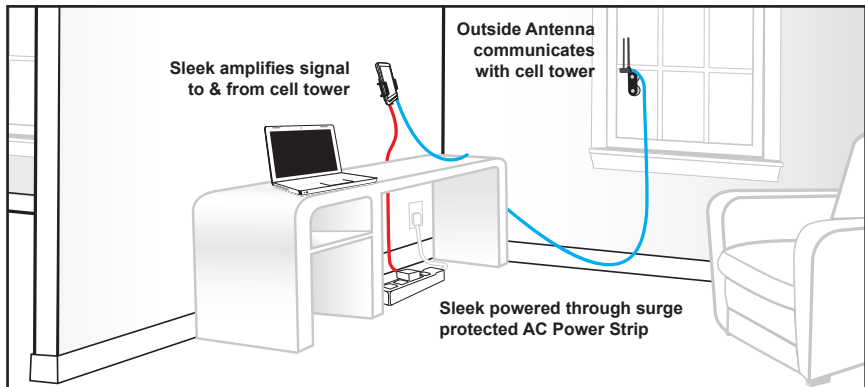
Attaching the Antenna

Once you have selected the location for the Sleek, run the cable from the outside antenna and attach it to the SMA connector on the bottom of the Sleek.

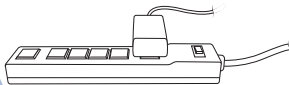
Note: The cell phone must be placed in the Sleek cradle to amplify properly.

Adapter Note: For optimal performance and to maintain a secure connection, we recommend attaching the included velcro tab. If adapter becomes loose in the port, gently squeezing the adapter end will restore a snug fit.

Warning: The Sleek and the Outside Antenna must have a minimum separation of 3 feet to prevent oscillation.



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.

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Warnings

-  Warning: Do not plug in the power supply until the Outside Antenna cable is attached to the Sleek.
-  Warning: **RF Safety:** The Sleek cradle/Signal Booster must be installed with a separation of at least 8 inches from all persons and must not be located in conjunction with any other antenna or Signal Booster.
-  Warning **RF Safety:** The FCC requires that a cell phone with cradle attached may only be used with the cradle mounted as illustrated in this installation guide. A cell phone held near the ear must be without the cradle attached.
-  Warning: **RF Safety:** The Outside Antennas authorized for use with this Signal Booster are shown on page 1 of this guide. FCC regulations require that any fixed Outside Antenna used with this Signal Booster may not have gain (less cable loss) that exceeds 15 dBi and must be located at least 30 inches from all people. Inside Antennas must not exceed 3.7 dBi gain (less cable loss) and must be located 8 inches from all people.
-  Warning: DO NOT use phone covers that have chrome or any other metallic surface. It may block cellular signals.

This device complies with part 15 of the FCC Rules. Operation is subject to the following 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 made that are not expressly approved by Wilson Electronics could void authority to operate this equipment.

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 issues 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 within the continental United States.

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 contacting Technical Support at 866-294-1660.

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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 phone signal reception and transmission in a wide variety of applications, both 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 shielded RF enclosure and cell tower simulators for compliance testing.

Wilson Electronics Signal Boosters feature patented 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.

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

Signal Booster Specifications

Model Number	Sleek	Sleek 4G-V	Sleek 4G-A
285225	285225	285225	285225
Connector	SMA Female	SMA Female	SMA Female
Impedance (input/output)	50 ohms	50 ohms	50 ohms
Frequency	824-894 MHz / 1850-1980 MHz	746-787 MHz / 824-894 MHz / 1850-1980 MHz	
Passband Gain (nominal)			
20 dB Bandwidth (nominal)	Uplink / Downlink	Uplink / Downlink	Uplink / Downlink
700 MHz	43 MHz / 45 MHz	N/A	Max
800 MHz	112 MHz / 54 MHz	25.18 MHz / 28.18 MHz	28 MHz / 31 MHz
1900 MHz		60.44 MHz / 60.28 MHz	67 MHz / 67 MHz
Power output for single cell phone			
(Uplink) dBm	800 MHz	700 MHz	1900 MHz
CDMA	28.9 dBm	N/A	29.3 dBm
GSM	30.9 dBm	N/A	28.3 dBm
EDGE	30.9 dBm	N/A	27.5 dBm
WCDMA	30.13 dBm	N/A	26.9 dBm
LTE	N/A	28.6 dBm	28.4 dBm
Power output for single cell phone			
(Downlink) dBm	800 MHz	700 MHz	1900 MHz
CDMA	-9 dBm	N/A	-1.1 dBm
GSM	-13 dBm	N/A	-1.7 dBm
EDGE	-13 dBm	N/A	-2.3 dBm
WCDMA	-32 dBm	N/A	-2.9 dBm
LTE	N/A	-2.1 dBm	-3.0 dBm
			-4.4 dBm
Power output for multiple received channels (uplink) The maximum power is reduced by the number of channels:			
	Maximum Power¹	800 MHz	1900 MHz
2	800 MHz	22.5	17.9
3	-1.1 dBm	2.2 dBm	17.9
4	-4.7 dBm	-1.4 dBm	14.3
5	-7.2 dBm	-3.9 dBm	11.8
6	-9.1 dBm	-5.8 dBm	9.9
		-7.4 dBm	8.3
Power output for multiple received channels (downlink) The maximum power is reduced by the number of channels:			
	Maximum Power¹	800 MHz	1900 MHz
2		-2.4	-4.7
3		-5.09	-8.2
4		-8.4	-10.7
5		-10.4	-12.7
6		-11.9	-14.3
Note: Figure (typical)			
Passband	3 dB nominal		
Isolation	≥40 dB		
Power Requirements	5V DC, 1A		

COMING SOON



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

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. Maximum power is the maximum power that can be achieved in any situation when multiple carrier signals are present, the gain 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. The power reduction is to be by means of input power or gain reduction and not by 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.