

Signal 4G

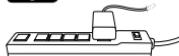
Need help?



[www.WilsonElectronics.com](http://www.WilsonElectronics.com)



Tech Support 866-294-1660  
Mon.-Fri. Hours: 7 am to 6 pm MST



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.



THE SIGNAL BOOSTER UNIT IS DESIGNED FOR USE IN AN INDOOR, TEMPERATURE-CONTROLLED ENVIRONMENT (LESS THAN 150 DEGREES FAHRENHEIT). IT IS NOT INTENDED FOR USE IN ATTICS OR SIMILAR LOCATIONS SUBJECT TO TEMPERATURES IN EXCESS OF 150°F.

## Installation Instructions for the Following Wilson Electronics Signal Booster:

### Signal 4G SmarTech III® Signal Booster

Model #460019 FCC ID: PWO460019 IC: 4726A-460019

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

## Contents

<b>Package Contents</b>	3
<b>Optional Accessories</b>	3
<b>Before Getting Started</b>	3
<b>Quick Installation</b>	3
<b>Installation Diagram</b>	5
<b>Additional FAQ</b>	5
<b>Warnings and Recommendations</b>	6
<b>Signal Booster Specifications</b>	7
<b>Guarantee and Warranty</b>	Back Cover



## Package Contents



Signal 4G  
(460019)



Mini-Mag  
Outside Antenna  
(301126)



5V / 2.5A Power Supply  
(859948)



3' RG174 w/ SMA  
Male to SMA Male  
(951151)

## Optional Accessories and Antennas



Lightning  
Surge Protector  
(859902)



DC Plug-In 5.5V/2A Power  
Supply & USB Cable  
(2D9910 / 359940)



5V/1.5A DC Hardwire  
Power Supply  
(859989)

Appearance of device and accessories may vary. (This product is not marketed by Verizon Wireless or AT&T).

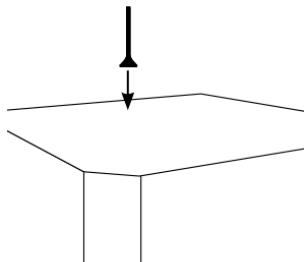
## Before Getting Started

Before you install your Signal 4G booster and start enjoying improved cellular reception, please do the following:

1. Read through all the installation steps. This will help you know what to expect from start to finish.
2. Watch the YouTube video demonstrating the Signal 4G installation at: [wilsonelectronics.com/signal4Gvideo](http://wilsonelectronics.com/signal4Gvideo)
3. Familiarize yourself with all materials in your product package. This will allow you to know which pieces are referenced in the instructions.

1. Install the Outside Antenna. Select a location on top of the structure that is:
  - At least 12 inches from any other antennas.
  - Free of obstructions.
  - At least 8 inches from any people.

The Outside Antenna must be installed vertically on a metallic surface.



## Quick Installation

You can install your Signal 4G booster using the following steps.

**NOTE:** Before completing your installation, create a “soft” installation by putting the components of your Signal 4G booster in place and testing the operation before mounting equipment.

Need help?

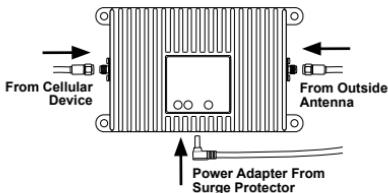


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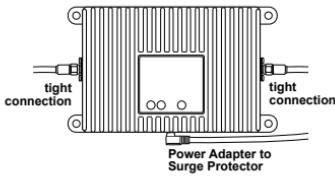
2. Select a location to install the Signal Booster that is away from excessive heat, direct sunlight, moisture and that has proper ventilation. Do not place the Signal Booster in an air-tight enclosure.
3. Run the Outside Antenna cable to the Signal Booster and attach it to the connector labeled "Outside Antenna."



4. An external adapter may be needed to connect the cellular device to the Signal Booster. The external adapter plugs into the included antenna extension cable and directly into a socket on the cellular device. Run the extension cable from the external adapter and attach it to the connector labeled "cell phone or data card" on the Signal Booster.

**Note:** Be careful when plugging the connector in so as not to bend the center pins on the connectors. Ensure all cables have a tight connection.

5. Before powering up the Signal Booster verify that connections are tight. An AC surge protector is recommended for all installations (not included).



## Troubleshooting & Understanding the Light

The Signal Boost includes a indicator light on the side of the Drive 4G-S. The indicator light will either be green or red.

**Green** indicates that the booster is powered and operating at maximum gain.

**Solid Red** indicates that the booster has shut off on the associated frequencies to prevent oscillation (feedback).

**Green/red Blinking** indicates that the booster is operating at a reduced gain to prevent oscillation (feedback).

### Fixing Red Light Issues

If one or more lights on the Signal Boost are red:

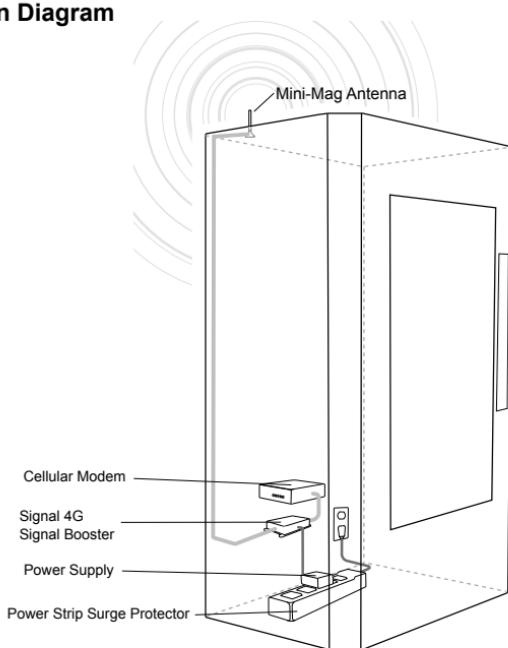
1. Make sure all connections are tight.
2. Increase the distance between the outside antenna and the Drive 4G-S, by moving them horizontally and/or vertically farther apart until the light change to green. Remember to keep the antenna at least 6 inches from any window or sunroof.
3. Follow the same steps for a green/red blinking light until the light goes solid green.
4. If more separation is not possible and the coverage of the booster is too small with a green/red blinking light indicating reduced gain, contact the weBoost Customer Support Team for assistance: 866-294-1660.

### Lights Off

1. Check connections on the power supply to see that it is firmly plugged into both the Drive 4G-S and the power source.
2. If using a DC power supply in your vehicle, ensure the power supply is properly inserted. Then check the 12 volt power from the car socket and the fuse. Replace the fuse if necessary.
3. If using a power strip in a building, ensure the power strip is plugged in and turned on and that power is coming from the outlet.

## Installation Diagram

(Figure 1)



## Additional FAQ:

### What hours can I contact tech support?

Technical Support can be reached from 7:00am to 6:00pm MST, by calling (866-294-1660), or by email, at [tech@wilsonelectronics.com](mailto:tech@wilsonelectronics.com).

### How does weather affect the performance of my Outside Antenna?

Water vapor (e.g. rain, fog, snow or other precipitation) creates an effective filter to cellular signal. In times of heavy precipitation, you may see less performance.

### What's the difference between the 800 MHz and the 1900 MHz bands? How do I know which MHz band my cell phone uses?

The Signal 4G booster works with all major North American cellular providers. Traditionally, 800/1900MHz are associated with voice and 3G data; while 700MHz and 1700/2100MHz are associated with 4G data.

### Carrier Frequency Use

We recommend visiting [www.wirelessadvisor.com](http://www.wirelessadvisor.com) (United States) or <http://bit.ly/1mQf2G1> (Canada) for information regarding the frequency band used by your cell service provider in a specific geographical location.

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## 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:** Use only the power supply provided in this package. Use of a non-Wilson Electronics products may damage your equipment.
- ⚠️ WARNING:** The Outside Antenna must be installed no higher than 10 meters (31'9") above ground.
- ⚠️ RF SAFETY WARNING:** Any antenna used with this device must be located at least 8 inches from all persons.

### This is a CONSUMER device.

**BEFORE USE**, you **MUST REGISTER THIS DEVICE** with your wireless provider and have your provider's consent. Most wireless providers consent to the use of signal boosters. Some providers may not consent to the use of this device on their network. If you are unsure, contact your provider.

You **MUST** operate this device with approved antennas and cables as specified by the manufacturer. Antennas **MUST** be installed at least 20 cm (8 inches) from any person.

You **MUST** cease operating this device immediately if requested by the FCC or a licensed wireless service provider.

**WARNING.** E911 location information may not be provided or may be inaccurate for calls served by using this device.

This device complies with Part 15 of FCC rules. Operation 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.

### 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.

**Disclaimer:** The information provided by Wilson Electronics, LLC is believed to be complete and accurate. However, no responsibility is assumed by Wilson Electronics, LLC 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.



## Mobile Antennas

### Mini-Mag

- 301126 w/ 12.5' RG174 cable- SMA

### 12" Mag Mount w/ 12.5' RG174

- 311103
- 311125
- 311128
- 314202
- 311703

### Trucker antenna w/10.5' RG58

- 311101
- 311701

### Trucker antenna w/13.5' RG58

- 311119
- 311133

### NMO Antenna's w/ RG174

#### Kit 311104-17410

- 800/1900 NMO antenna
- 10' RG174 cable

#### Kit 311112-17410

- 800/1900 NMO antenna
- 10' RG174 cable

#### Kit 314203-17410

- 800/900/1900 NMO antenna
- 10' RG174 cable

### Marine Antenna w/RG58

#### Kit 311130-5810

- Marine Antenna
- 10' RG58 cable

### Glass Mount w/14' RG58 cable

- 311102
- 311114 (Mini Glass Mount)

### NMO Antenna's w/ RG58

#### Kit 311104-5810

- 800/1900 NMO antenna
- 10' RG58 cable

#### Kit 311112-5810

- 800/1900 NMO antenna
- 10' RG58 cable

#### Kit 314203-5810

- 800/900/1900 NMO antenna
- 10' RG58 cable

## Outside Fixed Antennas

### 50 Ohm Outside Antenna Kits

#### Kit 314453-5825

- 50 Ohm Pole Mount Panel Antenna
- 25' RG58 Cable

#### Kit 314411-5825

- 50 Ohm Wide Band Directional
- 25' RG58 Cable

#### Kit 301111-5850

- Yagi Directional Antenna
- 50' RG58 Cable

#### Kit 311129-5840

- 800 MHz Yagi Directional
- 40' RG58 Cable

#### Kit 311203-5820

- Omni-Directional antenna
- 20' RG58 Cable

#### Kit 311124-5830

- 1900 MHz Yagi Antenna

- 30' RG58 Cable

#### Kit 314411-40075

- 50 Ohm Wide Band Directional
- 75' LMR400 Cable

#### Kit 311203-40020

- Omni-Directional antenna
- 20' LMR400 Cable

#### Kit 301111-400170

- Yagi Directional w/ N-Female
- 170' LMR400

#### Kit 311124-400100

- 1900 MHz Yagi Directional
- 100' LMR400 Cable

#### Kit 311129-400100

- 800 MHz Yagi Antenna
- 100' LMR400 Cable

#### Kit 314453-40075

- 50 Ohm Pole Mount Panel Antenna
- 75' LMR400 Cable

### 75 Ohm Outside Antenna Kits

#### Kit 301111-0675

- Yagi Directional Antenna
- 75' RG6 Cable
- N-Male to F-Female adapter

#### Kit 311201-0620

- Omni Directional w/ F-Female
- 20' RG6 Cable

#### Kit 311129-0660

- 800 MHz Yagi Directional
- 60' RG6 Cable
- N-Male to F-Female adapter

#### Kit 311124-0650

- 1900 MHz Yagi Directional
- 50' RG6 Cable
- N-Male to F-Female adapter

#### Kit 314473-0640

- 75 Ohm Pole Mount Panel Antenna
- 40' RG6 Cable

#### Kit 314475-0630

- 75 Ohm Wide Band Directional
- 75' RG11 Cable

#### Kit 311141-0620

- 75 Ohm Grey Brick Antenna
- 20' RG6 Cable

#### Kit 301111-1140

- Yagi Directional Antenna
- 140' RG11 Cable
- N-Male to F-Female adapter

#### Kit 311201-1120

- Omni Directional w/ F-Female
- 20' RG11 Cable

#### Kit 311129-11110

- 800 MHz Yagi Directional
- 110' RG11 Cable
- N-Male to F-Female adapter

#### Kit 311124-1180

- 1900 MHz Yagi Directional
- 80' RG11 Cable
- N-Male to F-Female adapter

#### Kit 314473-1175

- 75 Ohm Pole Mount Panel Antenna
- 75' RG11 Cable

#### Kit 314475-1175

- 75 Ohm Wide Band Directional
- 75' RG11 Cable

#### Kit 311141-1120

- 75 Ohm Grey Brick Antenna
- 20' RG11 Cable

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# Signal Booster Specifications

Signal 4G					
<b>Model Number</b>	460019				
Connectors	SMA				
Antenna Impedance	50 Ohms				
Frequency	698-716 MHz, 746-787 MHz, 824-894 MHz, 1850-1995 MHz, 1710-1755/2110-2155 MHz				
Passband Gain (typical)	700MHz Band12/17 11.8	700MHz Band13 11.0	800MHz 10.0	1700/2100MHz 7.1	1900MHz 8.6
20 dB Bandwidth (MHz)	700MHz Band12/17	700MHz Band13	800MHz	1700/2100MHz	1900MHz
Typical Maximum	29.5 33.9	31.6 33.9	38.4 40.6	81.8 85.4	75.4 77.4
Power output for single cell phone (Uplink) dBm	700MHz Band12/17 24.7	700MHz Band13 24.9	800MHz 24.1	1700MHz 25.6	1900MHz 25.0
Power output for single cell phone (Downlink) dBm	700MHz Band12/17 -6.3	700MHz Band13 -6.5	800MHz -6.5	1700MHz -7.7	1900MHz -5.8
Power output for multiple received channels (Uplink) dBm					
No. Tones	700MHz Band12/17	700MHz Band13	800MHz	1700MHz	1900MHz
2	26.1	25.8	21.0	21.3	21.9
3	22.6	22.3	17.5	17.8	18.4
4	20.1	19.8	15.0	15.3	15.9
5	18.1	17.8	13.0	13.4	13.9
6	16.5	16.3	11.5	11.8	12.3
Power output for multiple received channels (Downlink) dBm					
No. Tones	700MHz Band12/17	700MHz Band13	800MHz	2100MHz	1900MHz
2	-6.0	-5.9	-5.7	-6.8	-6.0
3	-9.5	-9.4	-9.2	-10.3	-9.5
4	-12.0	-11.9	-11.7	-12.8	-12.0
5	-14.0	-13.9	-13.7	-14.7	-14.0
6	-15.5	-15.4	-15.2	-16.3	-15.5
Noise Figure	5 dB nominal				
Isolation	> 40 dB				
Power Requirements	5.5 V 2 A				

Each Signal Booster is individually tested and factory set to ensure FCC compliance. The Signal Booster cannot be adjusted without factory reprogramming or disabling the hardware. The Signal Booster will amplify, but not alter incoming and outgoing signals in order to increase coverage of authorized frequency bands only. If the Signal Booster is not in use for five minutes, it will reduce gain until a signal is detected. If a detected signal is too high in a frequency band, or if the Signal Booster detects an oscillation, the Signal Booster will automatically turn the power off on that band. For a detected oscillation the Signal Booster will automatically resume normal operation after a minimum of 1 minute. After 5 (five) such automatic restarts, any problematic bands are permanently shut off until the Signal Booster has been manually restarted by momentarily removing power from the Signal Booster. Noise power, gain, and linearity are maintained by the Signal Booster's microprocessor.

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.

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U.S. Patent Nos. – 7,221,967; 7,729,669; 7,486,929; 7,409,186; 7,783,318; 8,583,034; 8,583,033; 8,874,030 B2; 8,874,029 B2; 8,755,399; 8,639,180; D565,021



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