

# Amplifier Installation Guide



**DB Pro**  
**Adjustable Gain**  
*Smart Technology*  
In-Building  
Dual Band  
Cellular  
SignalBooster

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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.

## Installation Instructions for the Following Wilson Signal Boosters:

### DB Pro In-Building Wireless Cellular Smart Technology™ Amplifier

Model # 271265

FCC ID: PWO271265

### Before Getting Started

This guide will help you properly install Wilson's Adjustable Gain DB Pro - In-Building Wireless Signal Booster, with Smart Technology™. **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 Technical Support at 866-294-1660.

### Reasons for Weak Cellular Signals

Anyone who uses a cell phone or cellular data card knows the frustration of not being able to connect to or maintain a strong cellular signal. When this occurs, it's generally due to one of two reasons:

1. Location of the Nearest Cell Tower – Cell towers are situated to provide broad coverage; however, there are many areas in which signal strength may be reduced by local government restrictions on the height or placement of the towers themselves. Rural areas generally have fewer cell towers than urban regions.
2. Natural and Man-Made Obstructions – Signal strength can also be negatively affected by trees, hills, buildings and other obstructions. You may be relatively close to a cell tower but still unable to make a call. This often occurs in homes, offices and other buildings in which stucco, concrete or metal walls block the signal.

The Adjustable Gain DB Pro works with two antennas. The inside antenna communicates with your cell phone, and the outside antenna communicates with the cell tower.

The outside antenna receives the outside signal and sends it through the coax cable to the Adjustable Gain DB Pro, where it is amplified and retransmitted through the inside antenna into the room. When the inside antenna picks up a signal from your cell phone, the Adjustable Gain DB Pro boosts that signal and transmits it through the cable to the outside antenna and back to the cell site.

(Note: the Adjustable Gain DB Pro Signal Booster will only operate if there is adequate signal to amplify.)

### Inside this Package



Adjustable Gain  
DB Pro Wireless  
Signal Booster



AC/DC Plug-in  
Power Supply



Bracket, Amplifier  
Wall Mount

### Antenna Options & Accessories



**A** 800/1900 MHz Omni-Directional Antenna (301201/301202)

**B** 1900 MHz Yagi PCS Antenna (301124)\*

**C** 800 MHz Yagi Cellular Antenna (301129)\*

**D** Dual-Band Panel Antenna (301155)

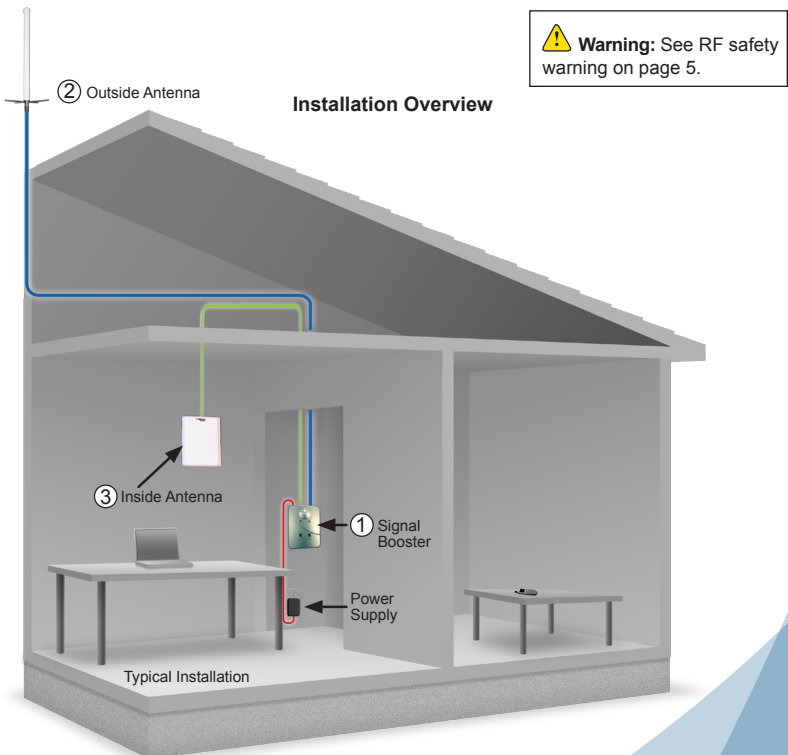
\* Requires N-male to F-female adapter/converter (2F1128)

\* Yagi antennas are to be used only as outside fixed antennas, see RF Safety Warning (pg.5)

## EASY TO INSTALL

The following steps provide a summary of the signal booster/antenna installation process. However, they are **not** a substitute for the complete installation instructions on the following pages, which you should read thoroughly. Contact Wilson's Technical Support Department with any questions at 866-294-1660.

- 1 Select a location to install the signal booster that is away from excessive heat, direct sunlight and moisture.
- 2 Select a location on the roof of the building to install the outside antenna. Use a cell phone in test mode to find the strongest signal from the cell tower (see pg. 5). Visit [wilsonelectronics.com](http://wilsonelectronics.com) to find the test mode function for your particular cell phone.
- 3 Select a location for the inside antenna, preferably in the center of where the signal needs to be amplified. Separation between the booster and the inside antenna must be a minimum of 10 feet, to prevent oscillation.
- 4 Verify that both the outside antenna and the inside antenna are connected before powering up the signal booster.  
Lightning protection is recommended for all in-building installations.
- 5 Separation distance between the inside and outside antennas must be a minimum of 50 feet, 75 feet is even better.



## Installing a Wilson Signal Booster

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.

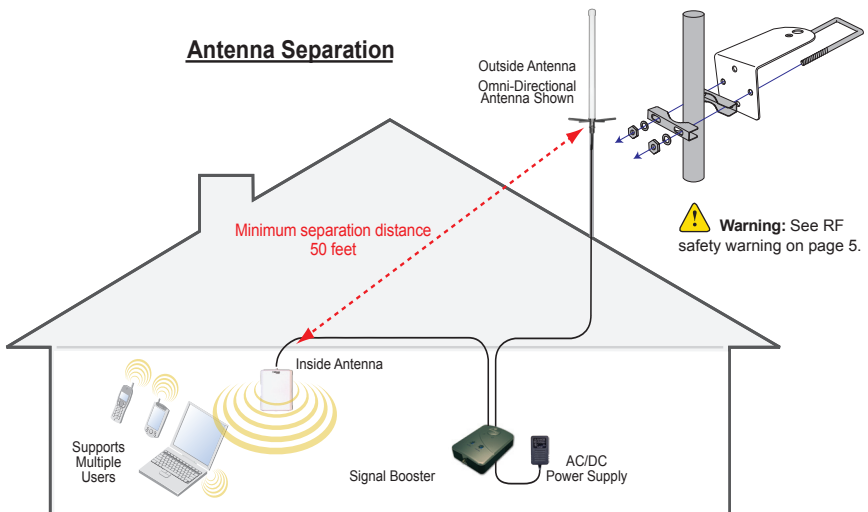
Recommended installation locations for in-building amplifiers are:

- On a wall
- In a closet
- Near a power outlet

Run the outside antenna cable to the signal booster and attach it to the connector labeled “outside antenna” on the signal booster. Run the inside antenna cable to the signal booster and attach it to the connector labeled “inside antenna” on the signal booster.

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

Note: Separation distance between inside and outside antennas must be a minimum of 50 feet, 75 feet is even better.




**Warning:** Connecting the signal booster directly to the cell phone with use of an adapter will damage the cell phone.

## Powering up a Wilson Signal Booster

1. **IMPORTANT!** Ensure that all cell phones and cellular data cards within 50 feet of the inside antenna are turned off.
2. To verify proper installation of the signal booster and antennas, make sure that the distance between the inside and outside antennas is a minimum of 50 feet, 75 feet is better.
3. If you are using an outside Yagi antenna, never point the front of the Yagi toward the inside antenna.
4. Ensure that both the outside antenna coax cable and the inside antenna coax cable are connected to the signal booster before powering up the signal booster.
5. Plug the 6-volt power supply into the signal booster input marked "power" (carefully, to avoid damaging the center pin) and then into a wall outlet.
6. If using a panel inside antenna always point the panel antenna away from the outside antenna. Signal Booster and inside antenna must have a minimum separation of 10 feet, to prevent oscillation.
7. If you have a **RED light** on the front panel of your signal booster, adjust the gain control corresponding to the frequency band for that particular light, slowly to the left, until that light turns green. If the coverage area is insufficient after the light turns green, try to re-orient the inside and outside antenna or both, until the gain control can be increased without turning the light red.
8. If you know that only one frequency band (800 or 1900) is available in your coverage area (or going to be used), reduce the gain control on that frequency band that is NOT in use to the minimum. This will reduce the power consumption of the signal booster.

## Understanding the Signal Booster lights and troubleshooting

The Signal Booster is equipped with 2 indicator lights, to let you know if the booster is working correctly. The indicator light on the left is for the 800 MHz while the indicator light on the right is for the 1900 MHz band.

**GREEN:**  The indicator lights on the signal booster will be **GREEN** when the unit is powered up and working properly.






**RED:**  **BLINKING RED LIGHT:**


This signal booster has protection shut off circuits to prevent disrupting cell sites. If your signal booster is in the process of shutting down (indicated by a blinking red light on both, or either band) please refer to *note 7* above. Then reset the signal booster by removing power from the signal booster, *make sure that no cell phones are located within 50 feet of the inside antenna*, then reconnect power to the signal booster. If the red light is still blinking contact Wilson Tech Support for assistance 1-866-294-1660


**RED:**  A solid **RED** light indicates the signal booster has shut down to prevent oscillation. Move antennas farther apart then reset the power. If red light is still on refer to *note 7* above, in the Powering up a Wilson Signal Booster section.

**To reset the signal booster, disconnect then reconnect the power supply.**

## Warnings and Recommendations

-  **Warning:** The Yagi antenna must always be located so the back or side points to the inside antenna. Never point the front of the Yagi antenna toward the inside antenna – this is to prevent oscillation.
-  **Warning:** Connecting the signal booster directly to the cell phone with use of an adapter will damage the cell phone.
-  **Warning:** Connect both the outside and inside antenna cables to the signal booster before powering up the amplifier.
-  **Warning:** Use only the power supply provided in this package. Use of a non-Wilson product may damage your equipment.
-  **Warning:** **RF Safety:** 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 7 dBi gain less cable loss in the 800 MHz band or 10 dBi gain less cable loss in the 1900 MHz band and must be located at least 8 inches from all people.

 **Warning:** Verify that both the outside antenna and the inside antenna are connected to the signal booster before powering up the amplifier.

 **Warning:** Use only the power supply provided in this package. Use of a non-Wilson product may damage your equipment.

Lightning protection is recommended for all in-building installations.

## Finding Signal Strength and Calculating Coverage Distance

Signal strength and the corresponding coverage distance you can expect to achieve with your signal booster/antenna system are based on a combination of several factors: the received signal strength of your cell phone alone, the signal gain achieved by your signal booster and antennas and the signal loss from cables, taps and splitters you may be using.

To calculate your approximate signal coverage distance, you can enter this information into our Coverage Area Calculator on the Technical Support page on our website ([www.wilsonelectronics.com](http://www.wilsonelectronics.com)). If you prefer, you can manually calculate your approximate signal coverage distance.

Measure the Outside Signal Level (OSL) at the intended outside antenna location using a cell phone in test mode. (For assistance, visit the Phone Test Modes section on the Technical Support page on our website or call 866-294-1660.) The OSL will always be a negative number. (Even if the cell phone shows a positive number, you will need to change it to a negative for this calculation.) Maximum signal strength is usually about -50. When the signal weakens to about -100 or worse, the call may be dropped.

Your inside and outside antennas will also add signal gain, again depending on the antenna models you are using. You will also experience some signal *loss* from cables, splitters and taps used to connect your system.

### **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 if located within the continental U.S.

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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## Adjustable Gain DB Pro Specifications

FCC ID: PWO271265	<b>Dual-Band Wireless 800/1900 MHz Specifications</b>	
<b>Model Number</b>	271265	
Antenna connectors	SMA Female	
Antenna impedance	50 ohms	
Dimensions	5.7 x 4.2 x 1.5 inch (14.0 x 10.8 x 3.9 cm)	
Weight	0.48 lbs (0.22 kg)	
Frequency	824-894 MHz / 1850-1990 MHz	
<b>Passband Gain</b>	75 dB	
<b>Power Output</b>	800 MHz	1900 MHz
Max Power output for single cell phone (reverse link)	30.8 dBm	30.5 dBm
Max Power output for single received channel (forward link)	26.0 dBm	25.2 dBm
Noise Figure (forward link)	3.5 dB nominal	
Noise Figure (reverse link)	5.5 dB nominal	
Isolation (reverse link/forward link)	> 90 dB	
<b>Power Requirements</b>	110-240 V AC, 50-60 Hz, 8 W	



3301 East Deseret Drive, St. George UT 84790

For additional Technical Support visit

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

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