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## Wilson In-Building Amplifier Systems

[www.cellularforless.com/wilsonamp.pdf](http://www.cellularforless.com/wilsonamp.pdf)

### How it Works

- Wilson In-Building Amplifier Systems significantly improve cell phone reception inside of a building.
- It receives the signal coming from the cell tower, amplifies it, and transmits the more powerful signal to your cell phone. It also amplifies the signal going from your cell phone to the tower. It essentially works as a 2-way hearing aid when the cell phone and tower are unable to communicate effectively.
- There is no physical connection to the cell phone so you can walk freely during the call.
- Supports up to 12 phones simultaneously - signal improvements will diminish with additional phones.
- Everything can be self-installed or CAFL can help you locate a professional installer.

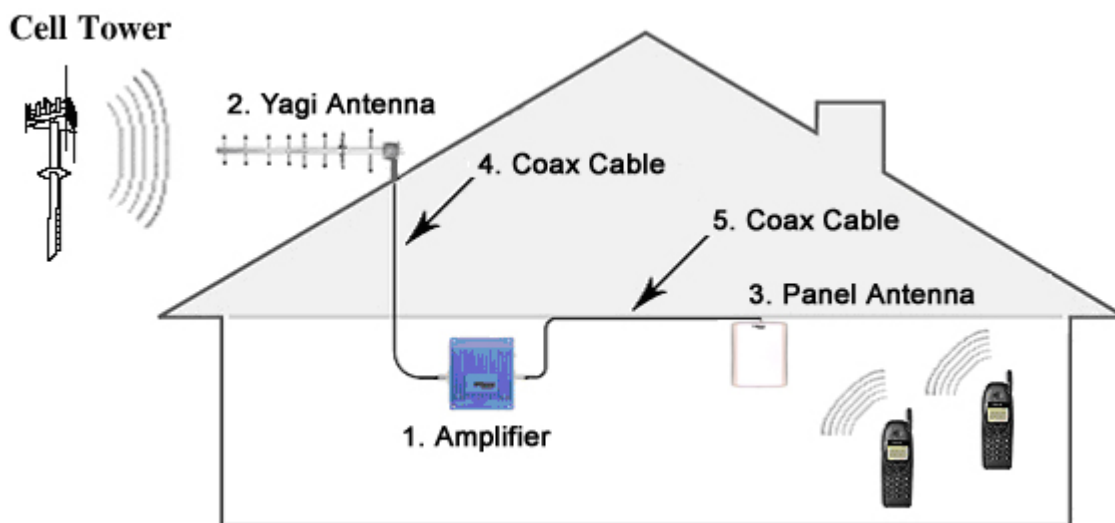
### Common Applications

- Buildings with thick walls or other physical barriers that block the signal
- Rural areas with poor reception because the nearest cell tower is too far away

### Typical Solution

1) Wilson In-Building Amplifier	\$499.99
2) Outside Yagi Antenna - communicates with the nearest cell tower	\$64.99
3) Inside Panel Antenna - communicates with the cell phones	\$74.99
4) Coax Cable - connects the Amplifier to the Outside Yagi Antenna*	\$74.99
5) Coax Cable - connects the Amplifier to the Inside Panel Antenna*	\$54.99
	<u>\$769.95</u>

\*Cable lengths will vary based on the dimensions of the building



## **Coverage Area**

Under ideal circumstances, the Wilson In-Building Amplifiers will provide the following coverage area from the Inside Panel Antenna:

AT&T / Verizon / Nextel (800 / 850 MHz)	400-foot radius
Sprint / T-Mobile (1900 MHz)	150-foot radius

In most situations, the coverage area will be slightly less due to the following factors:

- 1) The coverage area above is based on a strong signal outside the building. If the signal is weaker, the coverage area will be less.
- 2) Walls and other physical barriers within the building will block the signal. The composition is also a factor – signal passes through wood or dry wall better than concrete, metal, and brick.
- 3) The coverage area above is based on using a 80 feet of Coax Cable total. Using longer cables may diminish the coverage area because there is approximately 1 dB of signal loss for every 20 feet of cable.

To cover a larger area, you can use multiple Inside Panel Antennas or multiple Amplifier Systems.

## **Parts / Pricing**

Wilson offers parts designed for specific frequencies / service providers as well as dual band models that work with multiple service providers.

### **Amplifiers**

<a href="#">Wilson801165</a>	65 dB Amplifier for AT&T / Verizon (800/850 MHz)	\$499.99
<a href="#">Wilson801365</a>	65 dB Amplifier for Sprint / T-Mobile (PCS 1900 MHz)	\$499.99
<a href="#">Wilson804006</a>	60 dB Amplifier for Nextel (iDEN 800 MHz)	\$499.99

For smaller areas, Wilson offers 50 dB amplifiers at a reduced price. [Contact us](#) for details.

### **Outside Yagi Antennas**

<a href="#">Wilson301111</a>	AT&T / Verizon (800/850 MHz)	\$64.99
<a href="#">Wilson301124</a>	Sprint / T-Mobile (PCS 1900 MHz)	\$54.99

### **Inside Panel Antenna**

<a href="#">Wilson301135</a>	All Service Providers (Dual Band)	\$74.99
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Wilson also offers Inside Dome Antennas however these are not recommended. The Panel Antenna is much more effective due to the higher dB gain.

### **Coax Cables**

The length of the Coax Cables will vary depending on the dimensions of your building and the desired location of the amplifier and antennas. You should try to use the shortest cables possible because there is approximately 1 dB of signal loss for every 20 feet of cable. Wilson's LMR400 equivalent cables ensure optimal performance and minimal signal loss.

<a href="#">Wilson951107</a>	100-foot Coax Cable	\$117.99
<a href="#">Wilson951117</a>	75-foot Coax Cable	\$89.99
<a href="#">Wilson951106</a>	50-foot Coax Cable	\$74.99
<a href="#">Wilson951105</a>	30-foot Coax Cable	\$54.99
<a href="#">Wilson951108</a>	20-foot Coax Cable	\$47.99
<a href="#">Wilson952310</a>	10-foot Coax Cable	\$34.99
<a href="#">Wilson951113</a>	2-foot Coax Cable	\$27.99

For distances greater than 100 feet, you can connect two cables together with the following part:

<a href="#">Wilson971117</a>	Coax Cable Connector	\$9.99
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## **Using Multiple Inside Antennas for Larger Coverage Areas**

If you would like to cover a larger area inside (multiple rooms etc.), you can use the following Splitter to add more Inside Panel Antennas:

[Wilson859957](#) Dual Band Splitter \$74.99

You will also need to purchase 2 additional Coax Cables, each going to a Panel Antenna. A typical solution for an Amplifier System with 2 Inside Panel Antennas is:

- 1) Outside Yagi Antenna
- 2) Coax Cable that connects the Yagi Antenna to the Amplifier
- 3) Amplifier
- 4) Coax Cable that connects the Amplifier to the Splitter
- 5) Splitter
- 6) Coax Cable that connects the Splitter to the 1<sup>st</sup> Inside Antenna
- 7) Coax Cable that connects the Splitter to the 2<sup>nd</sup> Inside Antenna
- 8) 1<sup>st</sup> Panel Antenna
- 9) 2<sup>nd</sup> Panel Antenna

Please Note: Splitters, multiple antennas, and additional cable length will result in signal loss and may diminish the overall performance of the Amplifier System – see below.

## **In-Line Amplifiers to Compensate for Signal Loss**

Splitters, multiple Inside Antennas, and lengthy cables (over 100 feet) will cause signal loss and may diminish the overall performance of the Amplifier System. To improve performance, you can add an In-Line Amplifier with the following parts. You will need an AC wall outlet for power and 2 Coax Adapters to fit the N-Connector cables into the FME-Connector In-Line Amplifier.

- |   |                 |
|---|-----------------|
| 1) <a href="#">Wilson812201</a> In-Line Amplifier | \$199.99        |
| 2) <a href="#">Wilson859903</a> AC Power Supply   | \$24.99         |
| 3) Two <a href="#">Wilson971107</a> Coax Adapters | \$15.98         |
|   | <b>\$240.96</b> |

## **Installation**

Wilson Amplifier Systems can be self-installed. A thorough installation guide is included and you can view it online <http://www.cellularforless.com/userguides/WilsonInstallationGuide.pdf>. Please be sure to read all instructions and precautions prior to installation. If you need a professional installer, please [contact us](#). A basic install typically costs \$500.

### **Installing the Outside Yagi Antenna**

The included mounting bracket is designed to attach to a pipe approximately 1 inch in diameter (sold separately – available at most hardware stores). You can also use the [901117](#) Pole Mount Accessory Kit. For optimal performance, you need point the outside Yagi antenna directly at the nearest cell tower. There are 2 methods:

#### **Method 1 (Easiest)**

1. Fully install the Wilson Amplifier System but do not permanently mount the Yagi Antenna.
2. Try pointing the Yagi Antenna in different directions and check the number of bars you get on your cell phone inside the building. This is best done with 2 people - one person on the roof pointing the antenna the other person inside checking the bars.
3. When you determine the direction that results in the most bars inside, permanently mount the Yagi Antenna in that direction.

#### **Method 2 (More Precise)**

1. Connect the Yagi Antenna to a cell phone's external antenna port with an Antenna Adapter Cable – sold separately and only available for certain models. You can view all available cables at <http://www.wilsonelectronics.com/Adapters.php> and purchase them at [www.cellularforless.com](http://www.cellularforless.com).

- You will also need part # [Wilson951110](#) (\$19.99) to connect the Antenna Adapter Cable to the Yagi Antenna.
2. Once the Yagi Antenna is connected to your cell phone, put the phone into test mode. This allows you to view a precise numerical reading of the signal strength and quality. Only certain models can be put into test mode. Instructions can be viewed at <http://www.wilsonelectronics.com/Files/PDF/PhoneTestModes.pdf>
  3. Once in test mode, point the Yagi Antenna in different directions until the readings for signal strength and quality are optimal. Permanently mount the Yagi Antenna in this direction, facing away from the Inside Panel Antenna.

#### Installing the Inside Panel Antenna

The Inside Panel Antenna works best mounted on a wall, facing towards the area where you would like to improve reception and away from the Outside Yagi Antenna. You can also mount the Panel Antenna on the ceiling or above ceiling tiles, facing down.

#### Antenna Oscillation

If the Inside and Outside Antennas are installed too close together, they will improperly communicate with each other, aka “antenna oscillation”, which will overheat the Amplifier and cause it to shut down. To avoid this problem, the Antennas should be installed at least 75-feet apart and pointed in opposite directions. When you put the Amplifier into Install Mode, it will let you know if the Antennas are oscillating. If you are using more than one Amplifier on the same frequency, the Outside Yagi Antennas must be at least 100 feet apart.

#### Installing the Coax Cable

This is usually the most challenging aspect of an installation. You will need to find a secure, weather-proof path from the roof to the inside of the building. The most common entry points are:

- 1) An existing hole used by other cables
- 2) A roof vent
- 3) A window – you can run the cable down the side of the building

#### Installing the Amplifier

The Amplifier should be mounted in a well-ventilated location without excessive heat, direct sunlight, or moisture. You will need access to an AC wall outlet for power.

#### Lightning Protection

If you live in an area with frequent lightning storms, the [Wilson859902](#) Surge Protector is recommended. Wilson recommends grounding this with a 10-gauge copper wire attached to a grounding rod or metal water pipe – available at most hardware stores.

### **Support Contacts**

If you would like to receive a customized quote from one of our Wilson experts, please visit the link below and fill out the online questionnaire:

<http://www.cellularforless.com/Wilson-Questionnaire.doc>

#### **Cellular Accessories For Less**

Sales Support Team  
[sales@cellularforless.com](mailto:sales@cellularforless.com)  
310-220-2250  
(8:00 AM to 5:00 PM PST)

For assistance with installation and tech support:

#### **Wilson Electronics**

Tech Support  
[tech@wilsonelectronics.com](mailto:tech@wilsonelectronics.com)  
866-894-6996  
(7:00 AM to 3:30 PM PST)