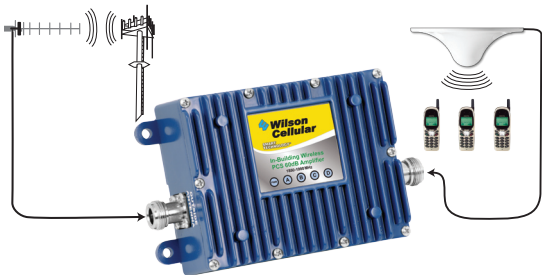




## **PCS Smart Technology™ Amplifier Installation Guide**



**In-Building  
Wireless PCS  
Smart Technology™ Amplifier  
PART # 801306  
1850-1990 MHz  
FCC ID: PWO8013SB  
IC: 4726A-8013SB**

### **Wilson Electronics, Inc.**

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For additional technical support visit

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

Phone: 1-866-294-1660

Fax: 1-435-656-2432

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

## 1. PURPOSE OF THE AMPLIFIER

The PCS Smart Technology™ Amplifier improves RF coverage for areas in which low signal strength is a concern.

## 2. PACKAGE CONTENTS

- 2.1 Amplifier
- 2.2 AC/DC 110 volt Power Supply



## 3. HOW THE AMPLIFIER FUNCTIONS

The signal is received by the outside antenna from the cell site. The signal is then AMPLIFIED and transmitted to your phone through the inside antenna. When the phone transmits, the signal is received by the inside antenna and then AMPLIFIED and transmitted to the cell site through the outside antenna.

## 4. AMPLIFIER INSTALLATION (see illustration on pg. 4 & 5)

### 4.1 Installing the **Wilson Cellular** Outside Antenna

**WARNING:** The outside antenna used with this amplifier must be fixed-mounted on an outdoor permanent structure with a separation of at least 20 feet from all persons during normal operation.

- 4.1.1 Select a location on the roof using your phone in test mode to find the best signal strength. (See leaflet titled PHONE TEST MODES)
- 4.1.2 The outside antenna should be located in an area with at least a 3 foot radius clear of obstructions and other radiating elements.

### 4.2 Installing The Amplifier

**WARNING:** Connecting amplifier directly to cell phone may damage phone.

**WARNING:** Connect both antennas before connecting power to the amplifier.

#### 4.2.1 Mount the AMPLIFIER on a wall or ceiling using #6 screws.

**NOTE:** Mount the AMPLIFIER away from direct sunlight, excessive heat and/or moisture. The amplifier needs proper ventilation. DO NOT place the amplifier in an air-tight enclosure.

#### 4.2.2 Connect outside antenna to the amplifier side labeled "OUTSIDE ANTENNA".

#### 4.2.3 Connect inside antenna to the amplifier side labeled "INSIDE ANTENNA".

#### 4.2.4 Verify that both the outside and inside antennas are connected before connecting the AC-DC power supply to the power outlet.

### 4.3 Indicator Lights



### 4.4 Installing The **Wilson Cellular** Inside Antenna

4.4.1 See antenna packaging for model specific instructions.

4.4.2 The inside antenna should be centered in the weak signal area. The inside antenna should be at least 7 feet from the floor.

#### FCC Separation Warning

**WARNING:** The inside antenna used with this amplifier must have a separation distance from all persons that is at least:

9 inches for the 2.5 dBi Dome antenna.

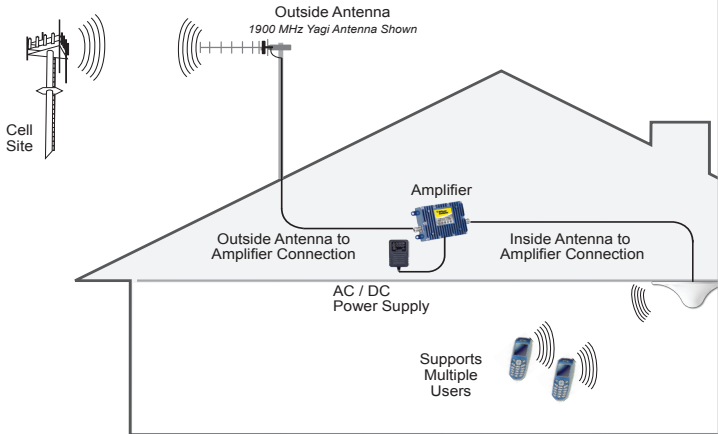
14 inches for the 7 dBi Panel antenna.

The amplifier must not be co-located or operating in conjunction with any other antenna or amplifier.

4.5 When covering multiple areas a 1900 MHz splitter can be used to allow for more than one inside antenna. Extension cables can also be used if the weak signal area is located far from the location of the outside antenna. For coax runs more than 20 feet use 9913 or equivalent coax.

**NOTE:** For Maximum gain (60 dB), keep a separation distance of at least 50 feet between the outside and inside antennas. Closer spacings may be used, but may cause the amplifier to automatically reduce its gain.

**NOTE:** When using a Yagi antenna make sure the Yagi is pointed away from the inside antenna.



**If using a Yagi Antenna,  
Make sure the Yagi is *not* pointed  
toward the inside antenna.**

**AMPLIFIER PHYSICAL  
SPECIFICATIONS**

|            |  |
|------------|--|
| Connectors | N-Female 50 ohms                                 |
| Dimensions | 4.5 x 3.5 x 1.25 inches<br>11.4 x 8.9 x 3.2 (cm) |
| Weight     | 1.5 lbs / 0.7 kg                                 |

## AMPLIFIER LAYOUT DIAGRAM

For maximum gain, keep a separation distance of at least 50 feet between the outside and inside antennas.

Inside Antenna  
*Optional Dome  
Antenna Shown*

### 5. AMPLIFIER SPECIFICATIONS

|                        |   |
|------------------------|---|
| Part Number            | 801306  |
| Gain                   | 60 dB   |
| Frequency              | PCS<br>1850-1910 MHz / 1930-1990 MHz              |
| Linear Output Power    | 30 dBm  |
| Max Output Power       | 3 watts   |
| Max RF (up/down)       | +30 dBm / +30 dBm                                 |
| Noise Figure (typical) | 4 dB  |
| Flatness (up/down)     | ± 4 dB  |
| Isolation              | > 90 dB   |
| Power Requirements     | 120 V AC 3 A Max                                  |
| Connectors             | N-Female  |
| Dimensions             | 4.5 x 3.5 x 1.25 (inch)<br>11.43 x 8.9 x 3.2 (cm) |
| Weight                 | 1.5 lbs / 0.7 kg                                  |

## 6. OPTIONAL ACCESSORIES/ANTENNA OPTIONS

**WARNING:** Lightning protection is recommended for all installations.

6.1 3dB Dual-Band Splitter Part # 859911

6.2 Coax Cable Extensions 50Ω (see chart on next page)

6.3 Antenna Options:

### Inside Antenna Options

301103 - Magnet Mount 5 dBi

301106 - Low Profile 2.2 dBi

301113 - Mini Magnet 2.12 dBi

301121 - Dome 2.5 dBi

301122 - Panel 7 dBi

301123 - Dual Polarity Dome, Unity

6.4 N-Male to FME-Male adapter Part # 971113

6.5 Lightning Surge Protection Part # 859902

### Outside Antenna Option

301124 - Yagi 13 dBi

## 7. TECH SUPPORT

If you need further assistance with your installation:

- 1) Call Toll-Free 866-294-1660 8:00 AM – 4:30 PM (Mountain Time)
- 2) E-mail tech support at [tech@wilsonelectronics.com](mailto:tech@wilsonelectronics.com)
- 3) Visit [www.wilsonelectronics.com](http://www.wilsonelectronics.com)

## 8. WARNINGS

**WARNING:** The outside antenna used with this amplifier must be fixed-mounted on an outdoor permanent structure with a separation of at least 20 feet from all persons during normal operation.

**WARNING:** The inside antenna used with this amplifier must have a separation distance from all persons that is at least:

9 inches for the 2.5 dBi Dome antenna.

14 inches for the 7 dBi Panel antenna.

The amplifier must not be co-located or operating in conjunction with any other antenna or amplifier.

**WARNING:** Verify that both the Outside and Inside Antennas are connected before plugging in the AC/DC power supply to the power outlet.

**WARNING:** Lightning protection is recommended for all installations. Lightning protection is required for warranty validation.

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## EXTENSION CABLE CHART

|        |   |   |
|--------|---|---|
| 951110 | 2' Extension Cable RG58U<br>Low Loss Coax<br>N-Male to FME-Female | Used with the Yagi antenna to help find the optimum signal strength (for installation purposes only). |
| 951101 | 5' Extension Cable RG58U<br>Low Loss Coax                         | 0.6 dB loss   |
| 951102 | 10' Extension Cable RG58U<br>Low Loss Coax                        | 1.2 dB loss   |
| 951103 | 15' Extension Cable RG58U<br>Low Loss Coax                        | 1.8 dB loss   |
| 951104 | 20' Extension Cable RG58U<br>Low Loss Coax                        | 2.4 dB loss, N-Male to FME-Female   |
| 951113 | 2' Extension Cable 9913 Equivalent<br>Ultra Low Loss Coax         | 0.08 dB loss, Jumper Coax - Can be used to connect a splitter behind an amplifier.                    |
| 951108 | 20' Extension Cable 9913 Equivalent<br>Ultra Low Loss Coax        | Only use 9913 Equivalent Low Loss Coax for extensions 20 feet or longer, 0.8 dB loss                  |
| 951105 | 30' Extension Cable 9913 Equivalent<br>Ultra Low Loss Coax        | 1.2 dB loss   |
| 951106 | 50' Extension Cable 9913 Equivalent<br>Ultra Low Loss Coax        | 2.0 dB loss   |
| 951117 | 75' Extension Cable 9913 Equivalent<br>Ultra Low Loss Coax        | 3.0 dB loss   |
| 951107 | 100' Extension Cable 9913 Equivalent<br>Low Loss Coax             | 4.0 dB loss   |

**RG58U - FME connectors / 9913 Equivalent - N connectors**

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.

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.

1900 MHz  
Yagi



**Optional Accessories**



FME Male to  
N-Male



Lightning Suppressor



Coax Cable Extension  
Ultra Low Loss Coax



Dome



Dual Polarity  
Dome



Panel



Mini  
Magnet



Low  
Profile



Magnet  
Mount



Trucker 3/8"  
Mount

**15 DAY  
MONEY BACK  
GUARANTEE**

All Wilson products  
have a 15 day  
money back  
guarantee with  
Proof of Purchase

**1 YEAR WARRANTY**

The Wilson amplifier is warranted for one year against defects in workmanship and/or materials and will be repaired or replaced, at the discretion of the manufacturer, to the original purchaser with dated proof of purchase or sales receipt.

If any questions arise about an amplifier please call technical support toll-free 1-866-294-1660 or E-mail [tech@wilsonelectronics.com](mailto:tech@wilsonelectronics.com)

Most warranty cases may be handled by taking the amplifier and the receipt to the store where it was purchased. If inconvenient, the amplifier and a copy of the receipt, may be sent to the factory, at purchasers expense. It will be repaired or replaced and returned shipping paid. Warranty does not cover damages caused by abuse, misuse, and negligence.