



Cellular & iDEN Amplifier Installation Guide

Cellular & iDEN
Analog & Digital - CDMA, GPRS, GSM, TDMA



**In-Building
Wireless Cellular
Smart Technology™
Amplifier**

824-894 MHz
FCC ID: PWO8011SB
IC: 4726A-8011SB

**In-Building
Wireless iDEN
Smart Technology™
Amplifier**

806-866 MHz
FCC ID: PWO8040SB
IC: 4726A-8040SB

Wilson Electronics, Inc.

3301 E. Deseret Drive, St. George, Utah 84790

For additional technical support go to

www.wilsonelectronics.com

Phone: 1-866-294-1660 Fax: 1-435-656-2432

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

1. PURPOSE OF THE AMPLIFIER

The Smart Technology™ Amplifiers improve RF coverage for areas in which low signal strength is a problem.

2. PACKAGE CONTENTS

- 2.1 Amplifier
- 2.2 AC-to-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

- 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' radius clear of obstructions and other radiating elements.

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.

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.

4.2 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.
- 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.

4.2 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' from the floor.

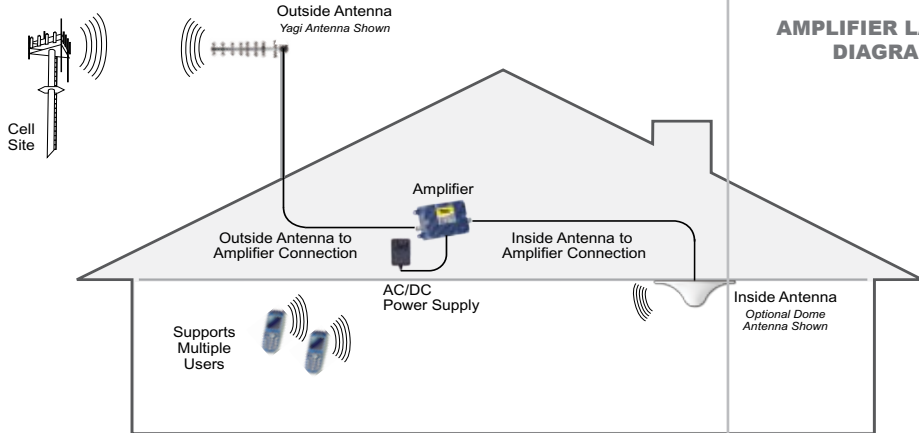
WARNING: The inside antenna used with this amplifier must have a separation distance from all persons that is at least:
9 inches for the 2.5 dBi Dome antenna.
14 inches for the 7 dBi Panel antenna.

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

- 4.5 When covering large areas a 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' use 9913 or equivalent coax.

NOTE: For Maximum gain (60 dB), keep a separation distance of at least 75 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 the Yagi antenna make sure the Yagi is pointed away from the inside antenna.



AMPLIFIER LAYOUT DIAGRAM

For maximum gain, keep a separation distance of at least 75 ft between the outside and inside antennas.

If using the 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" (11.4 x 8.9 x 3.2 cm)
Weight	1.5 lbs (682 gr)

5. AMPLIFIER SPECIFICATIONS FOR CELLULAR MODEL

Part #	801106
Frequency	824-849 MHz Uplink 869-894 MHz Downlink
Gain (up/down)	60 dB Max
Flatness (up/down)	+/- 2.5 dB
Max RF (up/down)	+ 32 dBm
Noise Figure (down)	3 dB nominal
Isolation	Uplink/Downlink More than 90 dB
Power Consumption	13.8 V, 1.5 A
Receiver overload light	Outside antenna has exceeded -5 dBm
Transmit overload light	Inside antenna has exceeded -5 dBm

AMPLIFIER SPECIFICATIONS FOR iDEN MODEL

Part #	804006
Frequency	806-821MHz Uplink 851-866MHz Downlink
Gain (up/down)	60 dB Max
Flatness (up/down)	+/- 2.5 dB
Max RF (up/down)	+ 32 dBm
Noise Figure (down)	3 dB nominal
Isolation	Uplink/Downlink More than 90 dB
Power Consumption	13.8 V, 1.5 A
Receiver overload light	Outside antenna has exceeded -5 dBm
Transmit overload light	Inside antenna has exceeded -5 dBm

6. OPTIONAL ACCESSORIES/ANTENNA OPTIONS

- 6.1 3 dB Splitter (Part# 859901)
- 6.2 6 dB Tap (Part# 859906) & 10 dB Tap (Part# 859907)
- 6.3 Coax Cable Extensions 50Ω (see chart on next page)
- 6.4 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

Outside Antenna Option

- 301111 - Yagi, 13 dBi

- 6.5 N-Male to FME-Male adapter (Part# 971113)

Adapts 9913 Coax to fit the Amplifier

- 6.6 Lightning Surge Protection (Part# 859903)

WARNING: Lightning protection is recommended for all installations.

7. TECH SUPPORT

If you need further assistance with your installation:

- 1) Call us Toll-Free at 866-294-1660 (8:00 AM – 4:30 PM Mountain Time)
- 2) E-mail tech support at tech@wilsonelectronics.com
- 3) Go to 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 Low Loss Coax (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 Low Loss Coax	(0.6 db loss)
951102	10' Extension Cable RG58U Low Loss Coax	(1.2 db loss)
951103	15' Extension Cable RG58U Low Loss Coax	(1.8 db loss)
951104	20' Extension Cable RG58U Low Loss Coax	(2.4 db loss) N-Male to FME Female
951113	2' Extension Cable 9913 Equivalent 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 Ultra Low Loss Coax	Only use 9913 Equivalent Low Loss Coax for extensions 20' or longer (0.8 db loss)
951105	30' Extension Cable 9913 Equivalent Ultra Low Loss Coax	(1.2 db loss)
951106	50' Extension Cable 9913 Equivalent Ultra Low Loss Coax	(2.0 db loss)
951117	75' Extension Cable 9913 Equivalent Ultra Low Loss Coax	(3.0 dB Loss)
951107	100' Extension Cable 9913 Equivalent 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.

Yagi
Single-Band



Optional Accessories



3 dB Splitter



FME Male to
N-Male



6 dB Tap



Lightning Suppressor



10 dB Tap



Coax Cable Extension
Ultra Low Loss Coax



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 you have questions about your amplifier please call technical support call 1-866-294-1660 or E-mail tech@wilsonelectronics.com

Most warranty cases can 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, where it may be repaired or replaced and returned shipping paid. Warranty does not cover damages caused by abuse, misuse, and negligence.