WILSON PRO
4000R

In-Building Multi-Antenna Signal Booster
With Extended Dynamic Range

User Manual

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Package Content

Kit 460231

- WilsonPro 4000R
- Wide Band Directional Antenna + 75’ Wilson 400 Cable
- 4 Qty. Dome Antenna + 4 Qty. 100’ Wilson 400 Cable
- Pair of 2-Way Radios
- 2’ Wilson 400
- Lightning Surge Protector
WilsonPro 4000R

Easy Rack-Mounted Installation
Neat and clean installation while leaving the unit easily accessible.

Onboard Software For Better Control
Each indoor antenna path is independently and automatically controlled with onboard software, ensuring great connectivity throughout large spaces and multi-story buildings.

Extended Dynamic Range For Continuous Connectivity
XDR allows the booster to never shutdown due to too strong of a signal. No matter how strong, the booster will never overpower and shutdown.

Color LCD For Easier Access
Unlike other boosters, the WilsonPro 4000R has a color LCD screen with four-way navigation, allowing integrators to have easy and effective control of the product.
The WilsonPro 4000R is the first rack mounted, cell booster to incorporate four separate signal amplifiers feeding multiple indoor antennas. The 4000R literally delivers the power of four boosters in a single rack mount unit, and provides cell coverage for up to 100,000 square feet of indoor space, or even more depending on the strength of the incoming signal from the tower.

Designed to provide enhanced in-building cellular coverage for commercial and large residential spaces, the WilsonPro 4000R amplifies weak cell signals to provide reliable voice and data coverage – including 4G – to inside spaces where signals may not penetrate.

Like all WilsonPro cellular signal boosters, the WilsonPro 4000R features cell site protections that auto-detect and prevent any cell tower interference. Wilson Electronics quality and an industry-leading three-year warranty make the 4000R a clear choice for the professional technology integrator.
Key Features

**Easy rack-mounted installation:** The 4000R is intended to fit into an existing server rack. This design allows for a neat and clean installation while leaving the unit easily accessible.

**Onboard Software for Better Control:** Each indoor antenna path is independently and automatically controlled with onboard software, ensuring great connectivity throughout large spaces and multi-story buildings. Since all ports are independently controlled, each can adjust its gain level up or down as required by the conditions of the immediate signal environment without disrupting coverage from any other antenna.

**Extended Dynamic Range (XDR) for continuous connectivity:** Gives the 4000R much greater tolerance than any competing booster for a strong incoming signal from the tower. XDR lets the 4000R system work with an incoming signal stronger than any competing booster and never shuts down.

**Color LCD for Easier Access:** Unlike other boosters, the Wilson 4000R has a color LCD screen with four-way navigation, allowing integrators to have easy and effective control of the product.
Competitive Advantages

**Highest Downlink Power:** Up to +12dB more downlink power than the competition allows for stronger signal in environments where the incoming signal is weak. The benefit is a stronger signal sent to the inside antennas, providing larger coverage area from a single booster.

**Highest Uplink Power:** This allows for a stronger signal transmitted to the tower, up to +3dB more than the competition, providing greater user capacity and increased range from the cell site.

**Lower Overload and Shutdown Threshold:** No matter how strong the outside signal, the WilsonPro 4000R never shuts down. This is a huge benefit in strong signal environments like cities and locations close to a carrier tower.

**Intelligent Control:** WilsonPro cellular boosters automatically adjust signal gain while still providing even signal coverage throughout the building.

**Sophisticated Software:** Cellular signals are constantly fluctuating. The software is always monitoring signal levels and making immediate adjustments as needed, allowing the booster to operate at maximum gain consistently.
Installation Diagram

The direction of the outside antenna should be adjusted until the “DL” bar is maximized.

2-way radios are included to help with the installation process.
Post Install Setup

The WilsonPRO 4000R is designed with advanced internal programming, which allows it to automatically adjust for a variety of conditions, while still boosting weak signals.

Once the AC power cable and antenna cables are connected, turn the unit on by toggling the power switch located near the AC power receptacle, located at the rear of the unit.
The 4000R takes about 20 seconds to boot up. Once boot up is complete, the status screen will appear, showing the amplification and status of each port and band.

A solid green light indicates that a band/port is operating correctly with maximum allowable gain.

A solid yellow light indicates band/port gain reduction because of an oscillation condition. Reposition antennas (more separation between indoor and outdoor antennas, and pointed in opposite directions) and reboot (power cycle) the 4000R for maximum performance. When adequate separation is achieved, the yellow lights will return to green upon reboot. Note that when the light is yellow, the band/port is operational; however, performance is reduced.
A red light indicates a band/port which has been completely shut down because of a severe oscillation condition or repeated oscillation events. Reposition antennas (more separation between indoor and outdoor antennas, and pointed in opposite directions) and then reboot (power cycle) the 4000R to reactivate the band/port and maximize performance. When adequate separation is achieved, the red light(s) will return to green upon reboot.
Port/Band Status Screens

Green Light

By pressing enter on a highlighted light, as shown, a more detailed status screen will be displayed for the highlighted band/port.

This screen provides specific band and port information. Including the strength of the received uplink and downlink signal, status details, and the amplifier gain.
(PORT/BAND STATUS SCREENS - GREEN LIGHT cont.)

In the presence of a strong outdoor cell tower signal, the 4000R will reduce it’s “boost” (Gain) using internal Automatic Gain Control (AGC). This gain reduction is necessary to stay within FCC requirements. When this occurs, the 4000R has reached the ‘speed limit’ so this is good! The outside antenna should always be adjusted until the “DL” bar is maximized and “AGC” is indicated, if possible with a weak outside signal, this may not be possible.

Yellow Light

Pressing enter on a highlighted light with a yellow light (Antenna 1, Band 12), as shown, will display the following...

This screen indicates band/port gain has been reduced because of the oscillation condition detected at a nearby band/port.
Enable/Disable Ports

To return to the Status Screen press the any arrow button on the D-Pad

Unused indoor antenna ports should be enabled/disabled by pressing enter on the applicable port, from the status screen.

‘Disabled’ will be displayed on the applicable port, as shown.
Safety Guidelines

⚠️ Warnings

To uphold compliance with network protection standards, all active cellular devices must maintain at least 6 feet of separation distance from Panel and Dome antennas.

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

The Signal Booster unit is designed for use in an indoor, temperature-controlled environment (less than 100 degrees Fahrenheit). It is not intended for use in attics or similar locations subject to temperatures in excess of that range.

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 may be operated ONLY in a fixed location for in-building use.

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 weBoost could void the authority to operate this equipment.

FOR MORE INFORMATION ON REGISTERING YOUR SIGNAL BOOSTER WITH YOUR WIRELESS PROVIDER, PLEASE SEE BELOW:

T-Mobile/MetroPCS: https://support.t-mobile.com/docs/DOC-9827
AT&T: https://securec45.securewebsession.com/attsignalbooster.com/
Antenna Kit Options

The following accessories are certified by the FCC to be used with the Wilson PRO 4000R.

Inside Antenna Expansion Kit
Kit 309900-50N40090
1. Wall Panel antennas 2. 3-Way Splitter 3. 100' Wilson 400
Kit 309905-50N17490
1. Wall Panel Antennas 2. 3-Way 50 Ohm Splitters 3. 90' RG174
Kit 309992-75F0650
1. Wall Panel Antennas 2. 3-Way 75 Ohm Splitters 3. 100' Wilson 400

Inside Antenna Kits
Kit 303121-40050
50 Ohm Dome Antenna 75' RG6 Cable
Kit 303155-0630
30 Ohm Dome Antenna 100' Wilson 400
Kit 303151-1140
75 Ohm Wall Mount Panel Antenna 120' RG11 Cable
Kit 303155-11120
150' Wilson 400
Kit 303155-1150
75 Ohm Wall Mount Panel Antenna 140' RG11 Cable

75 Ohm Outside Antenna Kits
Kit 301121-0675
75 Ohm Wide Band Directional 75 Ohm RG58 Cable
Kit 301121-1175
75 Ohm Dome Antenna 75 Ohm RG58 Cable
May need separate adapter
Kit 304149-11740
75 Ohm 4G Dome Antenna 75 Ohm LG 7 cable
Kit 304149-17450
75 Ohm 4G Dome Antenna 75 RG174 Cable
May need separate adapter
Kit 304149-0650
75 Ohm 4G Dome Antenna 55 Ohm LG 7 cable
Kit 304149-0660
50 Ohm 4G Dome Antenna 50 Ohm RG174 Cable
May need separate adapter
Kit 304149-1120
50 Ohm 4G Dome Antenna 50 Ohm RG174 Cable
May need separate adapter

140 Ohm Wide Band Directional 140 Ohm RG58 Cable
75 Ohm 4G Dome Antenna N-Male to F-Female adapter
Kit 311221-1120
20 Ohm Wide Band Directional 20 Ohm RG58 Cable
Kit 311221-5810
75 Ohm 4G Dome Antenna N-Male to F-Female adapter
Kit 311221-1110
100 Ohm Wide Band Directional 100 Ohm RG58 Cable
May need separate adapter
Kit 311221-11120
50 Ohm Wide Band Directional 50 Ohm RG58 Cable
May need separate adapter

140 Ohm Wide Band Directional 140 Ohm RG58 Cable
May need separate adapter
Kit 303111-0675
140 Ohm Wide Band Directional 140 Ohm RG58 Cable
May need separate adapter
Kit 303111-1175
140 Ohm Wide Band Directional 140 Ohm RG58 Cable
May need separate adapter
Kit 303111-11120
140 Ohm Wide Band Directional 140 Ohm RG58 Cable
May need separate adapter

Mini-Mag Outside Antenna 301126 w/12.5 RG174 cable-SMA

IN-BUILDING MULTI-ANTENNA SIGNAL BOOSTER
WILSON PRO 4000R
## Specifications

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<tr>
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<td>Model Number</td>
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<tr>
<td>FCC ID</td>
<td>PWO460031</td>
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<tr>
<td>Connectors</td>
<td>N-F Female</td>
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<td>Antenna Impedance</td>
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<td>Frequency</td>
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<th>Passband Gain (nominal)</th>
<th>700 MHz Band12/17</th>
<th>700 MHz Band13</th>
<th>800 MHz</th>
<th>1700/2100 MHz</th>
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<td>20 dB Bandwidth (MHz)</td>
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<td>Power output for single cell phone (Uplink) dBm</td>
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<td>700 MHz Band13</td>
<td>800 MHz</td>
<td>1700/2100 MHz</td>
<td>1900 MHz</td>
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<td>Power output for multiple received channels (Uplink) dBm</td>
<td>No. Tones</td>
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<td>1700/2100 MHz</td>
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<td>Power output for multiple received channels (Downlink) dBm</td>
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The term “IC” before the radio certification number only signifies that Industry Canada technical specifications were met.

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.
Warranty

☑️ 30 DAY MONEY-BACK GUARANTEE

All WilsonPro products are protected by WilsonPro 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.

☑️ 3 YEAR WARRANTY

WilsonPro Boosters are warranted for three (3) years 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.

Signal Boosters 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 WilsonPro. WilsonPro shall, at its option, either repair or replace the product.

This warranty does not apply to any Signal Boosters determined by WilsonPro to have been subjected to misuse, abuse, neglect, or mishandling that alters or damages physical or electronic properties.

RMA numbers may be obtained by contacting Customer Support.

DISCLAIMER: The information provided by WilsonPro is believed to be complete and accurate. However, no responsibility is assumed by WilsonPro 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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