WILSONPRO™
A Wilson Electronics Brand

WILSON PRO 4000

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

User Manual

NEED HELP?

wilsonpro.com

866.294.1660

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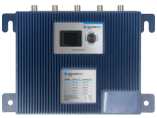
Package Content

Kit 460223



WilsonPro 4000

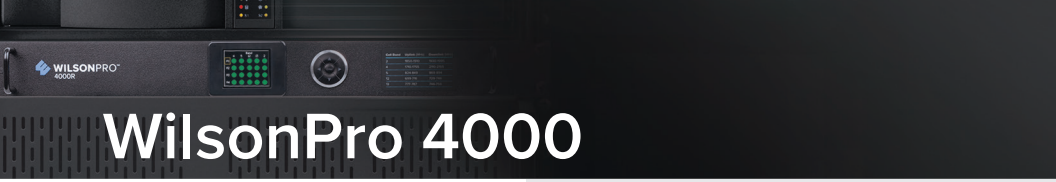
Wide Band Directional Antenna + 75' Wilson 400 Cable

4 Qty. Dome Antenna + 4 Qty. 100' Wilson 400 Cable

Pair of 2-Way Radios

2' Wilson 400

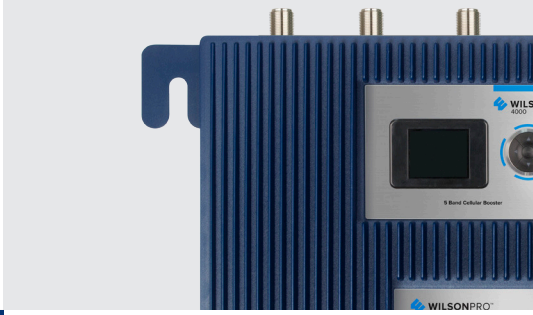
Lightning Surge Protector

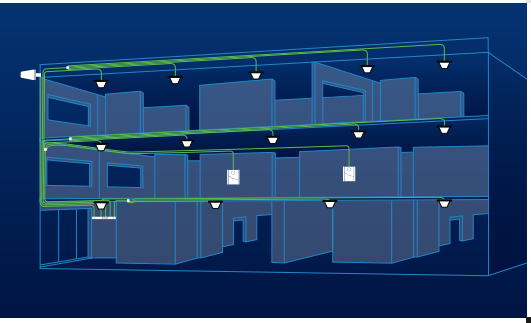


WilsonPro 4000

Easy 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.

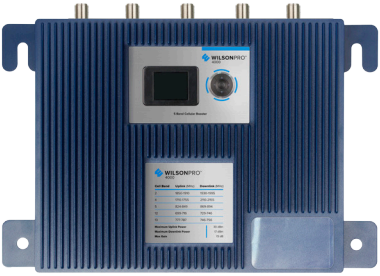
Extended Dynamic Range For Continuous Connectivity

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 4000 has a color LCD screen with four-way navigation, allowing integrators to have easy and effective control of the product.

The 4000 Literally Delivers The Power Of Four Boosters



The WilsonPro 4000 is the first rack mounted, cell booster to incorporate four separate signal amplifiers feeding multiple indoor antennas. The 4000 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 4000 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 4000 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 4000 a clear choice for the professional technology integrator.

Key Features

Easy installation: The 4000 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 4000 much greater tolerance than any competing booster for a strong incoming signal from the tower. XDR lets the 4000 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 4000 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.

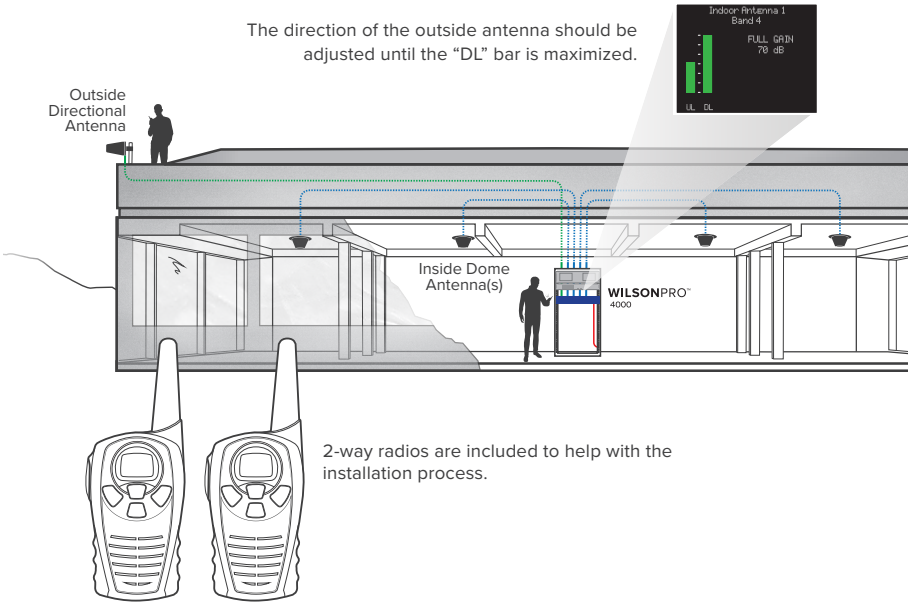
Highest Uplink Power: This allows for a stronger signal transmitted to the tower, up to +3dB more than the competition, providing greater user capacity and increased range from the cell site.

Lower Overload and Shutdown Threshold: No matter how strong the outside signal, the WilsonPro 4000 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.

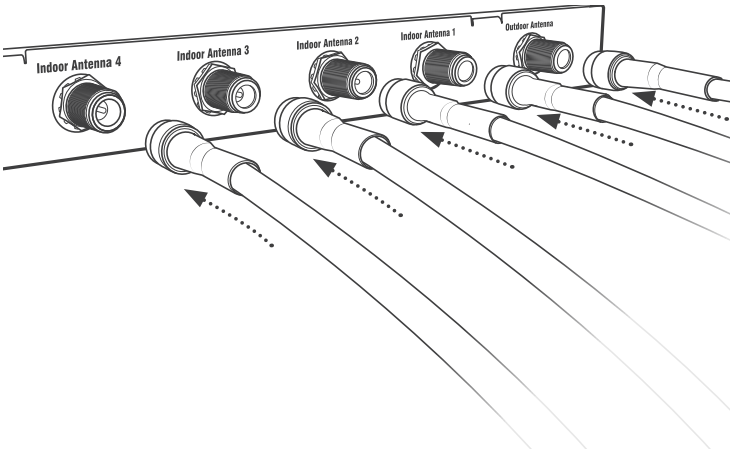
Installation Diagram



Post Install Setup

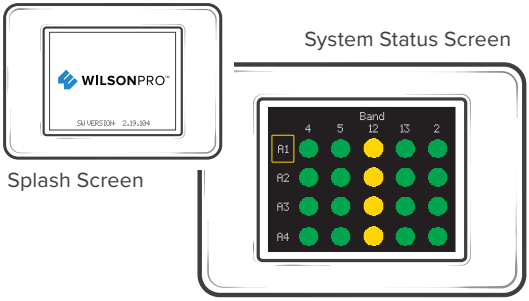
The WilsonPRO 4000 is designed with advanced internal programming, which allows it to automatically adjust for a variety of conditions, while still boosting weak signals.

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.



Status Screen

The 4000 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.



Lights Description

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

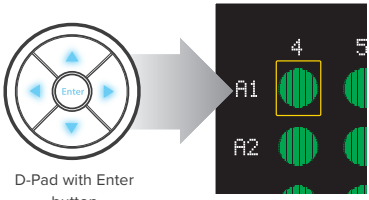
A solid yellow light indicates band/port gain reduction because of an oscillation condition. Reposition antennas (more separation between indoor and outdoor antennas, and pointed in opposite directions) and reboot (power cycle) the 4000 for maximum performance. When adequate separation is achieved, the yellow lights will return to green upon reboot. Note that when the light is yellow, the band/port is **operational**; however, performance is reduced.

(LIGHTS DESCRIPTION cont.)

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 4000 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

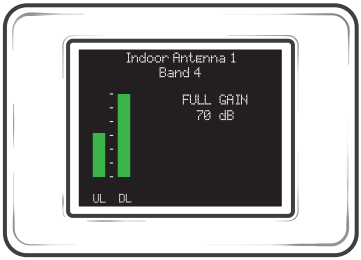
Green Light



D-Pad with Enter button

Status Screen Close-up

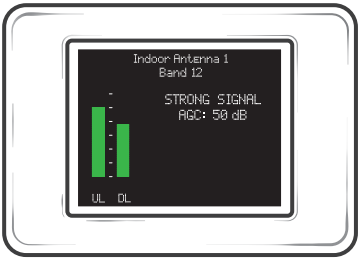
By pressing enter on a highlighted light, as shown, a more detailed status screen will be displayed for the highlighted band/port.



Band Details Screen

This screen provides specific band and port information. Including the strength of the received uplink and downlink signal, status details, and the amplifier gain.

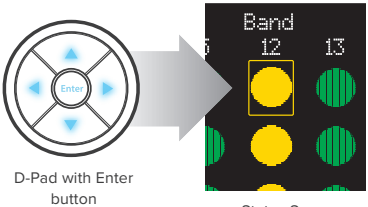
(PORT/BAND STATUS SCREENS - GREEN LIGHT cont.)



Band Details Screen

In the presence of a strong outdoor cell tower signal, the 4000 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 4000 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.

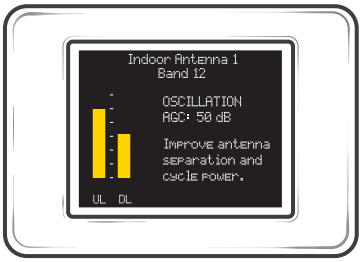
Yellow Light



D-Pad with Enter button

Status Screen Close-up

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

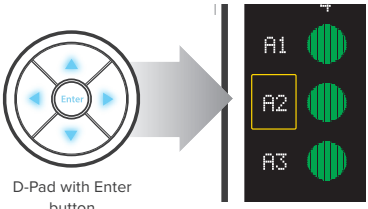


Band Details Screen

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

Enable/Disable Ports

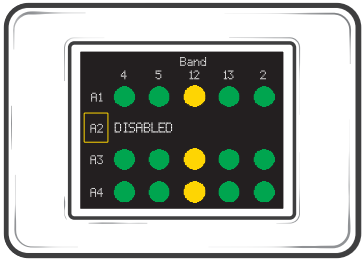
To return to the Status Screen press the any arrow button on the D-Pad



D-Pad with Enter button

Status Screen Close-up

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



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:

Sprint: http://www.sprint.com/legal/fcc_boosters.html

T-Mobile/MetroPCS: https://support.t-mobile.com/docs/DOC-9827

Verizon Wireless: http://www.verizonwireless.com/wcms/consumer/register-signal-booster.html

AT&T: https://securec45.securewebsession.com/attsignalbooster.com/

U.S. Cellular: http://www.uscellular.com/uscellular/support/fcc-booster-registration.jsp

Antenna Kit Options

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

Inside Antenna Expansion Kit

Kit 309900-50N40090
2 - Wall Panel antennas
1 - 50 ohm 3-Way Splitter
1 - 100' Wilson 400
Kit 309905-50N17490
3 - Wall Panel Antennas
3 - 2-Way 50 Ohm Splitters
90' RG174
Kit 309902-75F0650
2 - Wall Panel Antennas
1 - 3-Way 75Ohm Splitter
50' RG6
Kit 309903-75F1180
3 - Wall Panel Antennas
3 - 2-Way 75Ohm Splitters
80' RG11 cable
Kit 309904-75F5830
1 - Wall Panel Antenna
1 - 2-Way 75 Ohm Splitter
30' RG58 cable

Inside Antenna Kits

Kit 301121-40050
50 Ohm Dome Antenna
50' Wilson 400
Kit 301151-0630
75 Ohm Dome Antenna
30' RG6 Cable
Kit 311155-0670
75 Ohm Wall mount Panel Antenna
70' RG6 Cable
Kit 311135-5840
50 Ohm Wall mount Panel Antenna
40' RG58 Cable
Kit 311135-400150
50 Ohm Wall mount Panel Antenna
150' Wilson 400
Kit 301151-1140
75 Ohm Dome Antenna
40' RG11 cable
Kit 311155-11120
75 Ohm Wall mount Panel Antenna
10' RG11 cable
Kit 311155-1150
75 Ohm Wall mount Panel Antenna
120' RG11 Cable
Kit 304412-400100
50 Ohm 4G Dome Antenna
100' Wilson400 cable
Kit 304412-5830
50 Ohm 4G Dome Antenna
30' RG58 cable
Kit 304419-1175
75 Ohm 4G Dome Antenna
75' RG 11 cable
Kit 304419-17450
75 Ohm 4G Dome Antenna
50' RG174 cable
May need separate adapter
Kit 304419-0650
75 Ohm 4G Dome Antenna
50' RG6 cable
50 Ohm Outside Antenna Kits
Kit 314453-5825
50 Ohm Pole Mount Panel Antenna
25' RG58 Cable
Kit 314411-5825
50 Ohm Wide Band Directional
25' RG58 Cable
Kit 301111-5850
Yagi Directional Antenna
50' RG58 Cable
Kit 311129-5840
800 MHz Yagi Directional
40' RG58 Cable
Kit 311203-5820
Omni-Directional antenna
20' RG58 Cable
Kit 311124-5830
1900 MHz Yagi antenna
30' RG58 Cable
Kit 314411-40075
50 Ohm Wide Band Directional
75' LMR400 Cable
Kit 311203-40020
Omni-Directional antenna
20' LMR400 Cable
Kit 301111-400170
Yagi Directional w/ N-Female
170' LMR400
Kit 311124-400100
1900 MHz Yagi Directional
100' LMR400 Cable
Kit 311129-400100
800 MHz Yagi Antenna
100' LMR400 Cable
Kit 314411-40075
50 Ohm Wide Band Directional Antenna
75' LMR400 Cable
Kit 314453-40075
50 Ohm Pole Mount Panel Antenna
75' LMR400 Cable
Kit 304422-40020
50 Ohm 4G Omni Antenna
20' Wilson400 cable
Kit 304422-5810
50 Ohm 4G Omni Antenna
10' RG58 cable
Kit 304422-1120
50 Ohm 4G Omni Antenna
20' RG11 cable
May need separate adapter

75 Ohm Outside Antenna Kits

Kit 301111-0675
Yagi Directional Antenna
75' RG6 Cable
N-Male to F-Female adapter
Kit 311201-0620
Omni Directional w/ F-Female
20' RG6 Cable
Kit 311129-0660
800 MHz Yagi Directional
60' RG6 Cable
N-Male to F-Female adapter
Kit 311124-0650
1900 MHz Yagi Directional
500' RG6 Cable
N-Male to F-Female adapter
Kit 314473-0640
75 Ohm Pole Mount Panel Antenna
40' RG6 Cable
Kit 311141-0620
75 Ohm Grey Brick Antenna
20' RG6 Cable
Kit 301111-11140
Yagi Directional Antenna
140' RG11 Cable
N-Male to F-Female adapter
Kit 311201-1120
Omni Directional w/ F-Female
20' RG11 Cable
Kit 311129-11110
800 MHz Yagi Directional
110' RG11 Cable
N-Male to F-Female adapter
Kit 311124-1180
1900 MHz Yagi Directional
80' RG11 Cable
N-Male to F-Female adapter
Kit 314473-1175
75 Ohm Pole Mount Panel Antenna
75' RG11 Cable
Kit 314475-0630
75 Ohm Wide Band Directional
30' RG6 Cable
Kit 314475-1175
75 Ohm Wide Band Directional
75' RG11 Cable
Kit 311141-1120
75 Ohm Grey Brick Antenna
20' RG11 Cable
Kit 304421-17410
75 Ohm 4G Omni Antenna
10' RG174 cable
Kit 304421-0610
75 Ohm 4G Omni Antenna
10' RG6 cable
Kit 304421-5810
75 Ohm 4G Omni Antenna
10' RG58 cable
May need separate adapter
Kit 304423-1120
75 Ohm 4G Omni Antenna
20' RG 11 cable
Kit 304423-17410
75 Ohm 4G Omni Antenna
10' RG174 cable
May need separate adapter
Kit 304423-0610
75 Ohm 4G Omni Antenna
10' RG174 cable
Kit 304423-5810
75 Ohm 4G Omni Antenna
10' RG6 cable
May need separate adapter
Kit 304424-40020
50 Ohm 4G Omni Antenna
20' Wilson400 cable
Kit 304424-5810
50 Ohm 4G Omni Antenna
10' RG174 cable
May need separate adapter
Kit 304424-1120
50 Ohm 4G Omni Antenna
20' RG11 cable
May need separate adapter
Mini-Mag Outside Antenna
301126 w/12.5 RG174 cable-SMA

Specifications

Product Number	U460023				
Model Number	460023				
FCC ID	PWO460023				
IC ID	4726A-460023				
Connectors	N-Female				
Antenna Impedance	50 Ohms				
Frequency	698-716 MHz, 746-787 MHz, 824-894 MHz, 1850-1990 MHz, 1710-1755/2110-2155 MHz				
Passband Gain (nominal)	**700MHz Band12/17**	**700MHz Band13**	**800MHz**	**1700/2100MHz**	**1900MHz**
	57.8	57.8	59.8	62.5	63.6
20 dB Bandwidth (MHz)	**700MHz Band12/17**	**700MHz Band13**	**800MHz**	**1700/2100MHz**	**1900MHz**
Typical	29.8	29.9	36.4	76.7	73.8
Maximum	35.2	35.2	37.4	79.2	74.4
Power output for single cell phone (Uplink) dBm	**700MHz Band12/17**	**700MHz Band13**	**800MHz**	**1700MHz**	**1900MHz**
	25.4	25.5	24.8	25.8	25.2
Power output for single cell phone (Downlink) dBm	**700MHz Band12/17**	**700MHz Band13**	**800MHz**	**2100MHz**	**1900MHz**
	11.1	11.1	10.6	10.7	8.7
Power output for multiple received channels (Uplink) dBm					
No. Tones	**700MHz Band12/17**	**700MHz Band13**	**800MHz**	**1700MHz**	**1900MHz**
2	18.0	18.3	21.1	17.6	22.1
3	14.5	14.8	17.6	14.1	18.6
4	12.0	12.3	15.1	11.6	16.1
5	10.0	10.3	13.1	9.6	14.1
6	8.5	8.8	11.6	8.1	12.6
Power output for multiple received channels (Downlinklink) dBm					
No. Tones	**700MHz Band12/17**	**700MHz Band13**	**800MHz**	**2100MHz**	**1900MHz**
2	11.2	12.5	14.0	11.4	10.5
3	7.7	9.0	10.5	7.9	7.0
4	5.2	6.5	8.0	5.4	4.5
5	3.2	4.5	6.0	3.4	2.5
6	1.7	3.0	4.5	1.9	1.0
Noise Figure	5 dB nominal				
Isolation	> 90 dB				
Power Requirements	12V 3A				

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.

Notes

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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NOT AFFILIATED WITH WILSON ANTENNA

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