

LUXUL

WIRELESS

PRO-WAV™ WI-FI OUTDOOR RANGE EXTENDER/BRIDGE KIT QUICK INSTALL GUIDE



FC
FCC
CERTIFIED

NETGEAR®
WG103 AP Included

Congratulations on your purchase of the Luxul Pro-WAV™ Range Extender Kit! You are just minutes away from enjoying the benefits of a farther reaching, clearer wireless signal in your home or office.

LUXUL WIRELESS PRODUCTS COVERED BY THIS GUIDE

PWK6-24-FC2 - Pro-WAV 1W 2.4GHz outdoor Wi-Fi Range Extender Kit

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PRO-WAV™ INDOOR BOARD MOUNTED RANGE EXTENDER KIT

MODEL NUMBER: PWK6-24-FC2

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This product is covered by one or more U.S. and foreign patents.

Patents: 7,783,270, 7,379,717, 6,606,075, 6,373,448, other patents pending

SHOCK-WAV™ WI-FI SIGNAL BOOSTER

MODEL NUMBER: PW-FC2

FCC ID: W59PWFC2

IC: 8584A-PWFC2

Luxul Wireless, Inc.

357 South 670 West, Suite 160

Lindon, UT 84042

www.luxulwireless.com

NETGEAR®

MODEL NUMBER: WG103

FCC ID: PY308400097

IC: 4054A-08400097

NETGEAR, Inc.

350 East Plumeria Drive

San Jose, California 95134-1911

www.netgear.com

PROFESSIONAL INSTALLATION CONSIDERATIONS

The Luxul Wireless Pro-WAV Wi-Fi Range Extender System is required to be professionally installed. The following components are approved for use in the system.

- Luxul Wireless Shock-WAV PW-FC2 Wi-Fi Signal Booster
- Luxul Wireless X-WAV™ XW-24-FP7 Flat Panel Antenna
- Netgear ProSafe WG103 Access Point
- Netgear Omni antenna included with WG103 access point

The output power of the amplifier is set and tested during manufacturing. There are no user modifiable parameters in the amplifier. The Luxul Shock-WAV Wi-Fi Signal Booster system incorporates a Digital AGC (D-AGC) that ensures a consistent and approved output power.

QUICK INSTALL GUIDE

THE PRO-WAV RANGE EXTENDER KIT INCLUDES THE FOLLOWING:

- Shock-WAV™ 802.11b/g Signal Booster
- X-WAV™ CP (Circularly Polarized) Antenna
- Two Coax Cables
- Ethernet Cable
- POE (Power-Over-Ethernet) Injector
- 48VDC Universal Input Power Supply
- Outdoor Antenna Mounting Bracket
- Quick Install Guide
- Netgear ProSafe Access Point.
 - Included with the Netgear is: a Detachable Antenna, Ethernet Cable, Power Supply, Installation Guide, Warranty/Support Information Card and Resource CD.

ADDITIONAL ITEM REQUIRED

External Ethernet cable from your data/network source (Max. length 329' or 100 meters).

OPTIONAL EQUIPMENT

- Luxul Wireless has a wide variety of cables available and can also make custom cables for your installations. Contact sales@luxulwireless.com for more information.
- For creating a bridge you may want a second PRO-WAV™ Outdoor Range Extender/Bridge Kit.

CONFIGURE YOUR AP

See the guide included with your AP and configure the AP before you connect the Luxul Range Extender kit. Once the AP is configured, disconnect all power and connect the Luxul Range Extender Kit.



CAUTION: Disconnect all power before connecting or disconnecting any cables or coax to or from this device. Failure to do so will void your warranty.

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ASSEMBLE THE RANGE EXTENDER KIT

1. Position the X-WAV antenna outdoors so that it points towards the desired coverage area
2. Feed the WBC™-400 Coax cable (the thicker coax) through the wall to your buildings interior where the signal booster and AP will be located.

CONNECTING THE COAX CABLES

1. Connect the X-WAV antenna to the Shock-WAV Wi-Fi Signal Booster using the N-Male to N-Male cable. Be sure to connect the cable to the side of the Shock-WAV Wi-Fi Signal Booster labeled “Antenna”.
2. Remove the stock antenna from your AP. Set aside the stock antenna, you will not need it for this installation.
3. Using the included N-Male to RP-SMA cable connect the Shock-WAV Wi-Fi Signal Booster to the antenna port of your AP. Be sure to connect the cable to the side of the Shock-WAV Wi-Fi Signal Booster labeled “INPUT”.

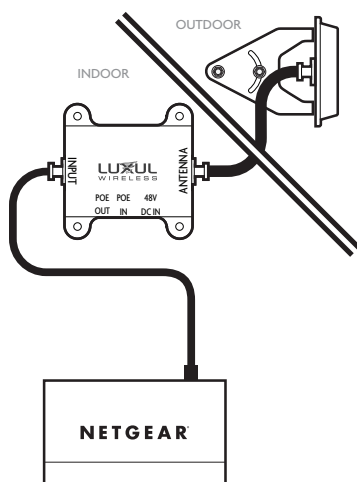


FIGURE 1

POWERING OPTIONS

For maximum flexibility you may power the Pro-WAV Outdoor Range Extender/Bridge Kit by Direct Power or POE using the Luxul Wireless POE Injector or a POE injector that supports legacy mode. The Luxul Wireless Signal Booster does not support 802.3af POE power. (Check POE's documentation).

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POE (Power Over Ethernet) (Figure 2)

1. Connect the Ethernet cable from your data/network source to the “48V POE IN” port of the Wi-Fi Signal Booster.
2. Connect the next Ethernet cable from the “POE OUT” of the Wi-Fi Signal Booster to the “10/100M” port of your Netgear AP, (See AP’s documentation).
3. Be sure all cables are connected securely and power up your POE injector.
4. You may now power your POE injector.

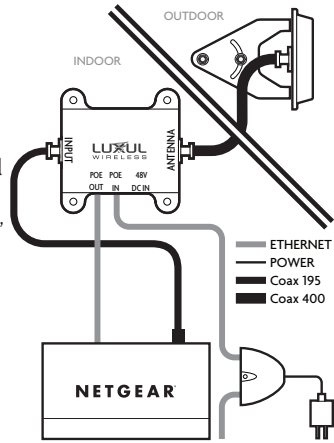


FIGURE 2

POE with the POE-1Port Injector (Figure 3)

Install the POE injector where you have access to your data/network source Ethernet cable and power sources.



NOTE: The POE-1Port is a non 802.3af/at compliant injector

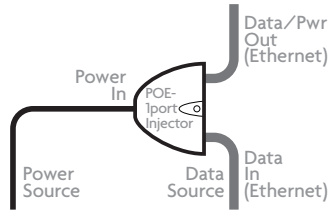


FIGURE 3

Direct Power: (Figure 4)



NOTE: If powering the Shock-WAV Signal Booster directly the “POE OUT” port is disabled.

1. Connect the Ethernet cable from your data/network source to the “10/100M” port of your Netgear AP, (See AP’s documentation).
2. Attach the Luxul power supply (48VDC) to the “48V DC IN” port of the Signal Booster.
3. Connect Netgear power supply to the AP’s power port (See AP’s documentation).
4. Plug the power supplies into your power source.

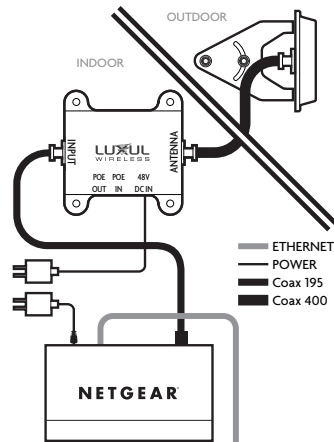


FIGURE 4

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DEPLOYMENT

The Pro-WAV PWK6 Outdoor Range Extender/Bridge Kit is designed to be placed on the exterior of a structure adjacent to the desired coverage area. For best results, the Kit should be deployed where the maximum amount of signal can be sent throughout the desired coverage area. The flat panel antenna included in the Wi-Fi Range Extender Kit is a directional antenna and should be pointed toward the desired coverage area, similar to aiming a flash light. Use the adjustable antenna mount included in the kit to aim your antenna.

Placement Within Your Coverage Area

Luxul Wireless products, particularly those implementing our patented booster products, are often capable of emitting enough signal strength to cover an entire coverage area regardless of orientation. However, for best results, the deployment suggestions, figure 6, are recommended.

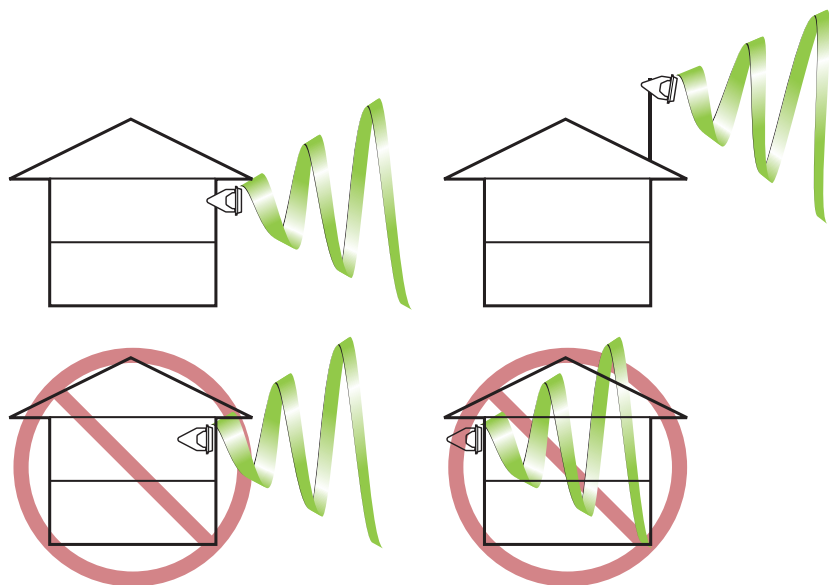


FIGURE 5

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PRO-WAV PWK6 AS A BRIDGE

Your Access Point allows you to connect many wireless devices to one network connection. Adding a bridge to your wireless network allows you to extend that one network connection into an area where you don't want to, or can't, run a cabled connection. The Pro-WAV PWK6 Outdoor Range Extender/Bridge Kit allows even further wireless connections between APs. At Luxul Wireless we recommend using separate APs to create a wireless bridge, (Figure 6) instead of setting up an AP as a repeater because of the amount of signal throughput that is lost. Check your APs documentation for instructions on setting up a wireless bridge.

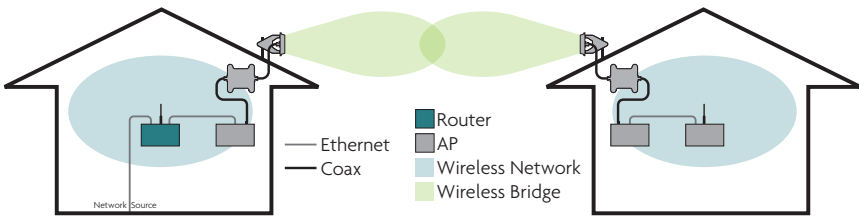


FIGURE 6

Even though the Pro-WAV PWK6 Outdoor Range Extender/Bridge Kit is capable of sending signal through most obstacles you will want to be sure that the antennas that make up your wireless bridge have line of site to each other and are aimed as close as possible directly at one another.

For more information on deploying a bridge contact sales@luxulwireless.com.

TROUBLESHOOTING

Weak or non-existent coverage.

- Make sure the cables are properly connected and that there is power to the Shock-WAV Wi-Fi Signal Booster and your WAP (Wireless Access Point).
- If the Signal Booster is powered the Power and TX/RX indicators will be solid green. If data is passing through the signal booster the TX/RX indicator will be Green with flashing Red. If there is no indication of data pass through remove the Luxul unit and test with the WAPs stock antennas to make sure the WAP's radio is transmitting. If the WAP is not transmitting check your WAP's documentation for possible causes.
- Sometimes, WAP's with multiple antennas have primary and secondary antenna ports. Be sure to connect the signal booster to the primary antenna port of the WAP as many secondary ports are receive only, or do not transmit at the same power level as the primary antenna port. If your WAP has more than one antenna port, try connecting to a different port and/or, if available, change the administration settings disable the secondary antenna port. (See your WAP's documentation).
- Ensure the X-WAV antenna is properly positioned. Directional antennas should face the direction of the area to be covered. Omni antennas should be centered in the desired coverage area. Antennas should have minimum of 2 feet (.6 meters) of clearance with no obstructions.
- The Luxul Wireless Circular Polarized signal is superior for penetrating wood, concrete, and stucco, but all wireless signals can be disrupted by certain obstructions, including large metal objects, or strong magnetic fields. Try orienting the antenna where line-of-sight access to the desired coverage area is available.

After checking the above items, if your Luxul Wireless product still does not seem to be functioning properly, please contact Technical Support at: support@luxulwireless.com
For warranty information please go to: www.luxulwireless.com/warranty/

Results may vary depending on building layout, type of construction and other environmental factors including Wi-Fi traffic, Microwave Ovens, Cordless Phones etc.

FCC NOTICE: The use of all radio equipment is subject to regulations in each country. To comply with FCC part 15 rules in the United States, radio equipment must only be used in systems that have been FCC certified. It is the responsibility of the user/professional installer/operator to ensure that only approved equipment/systems are deployed. To ensure FCC part 15 compliance, Luxul amplifier products should only be installed in certified systems by licensed professionals.

FCC Certification Support for OEMs: Luxul Wireless offers FCC certification assistance and engineering support for qualified OEMs interested in certifying complete amplified WLAN systems. Please contact us for details.

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