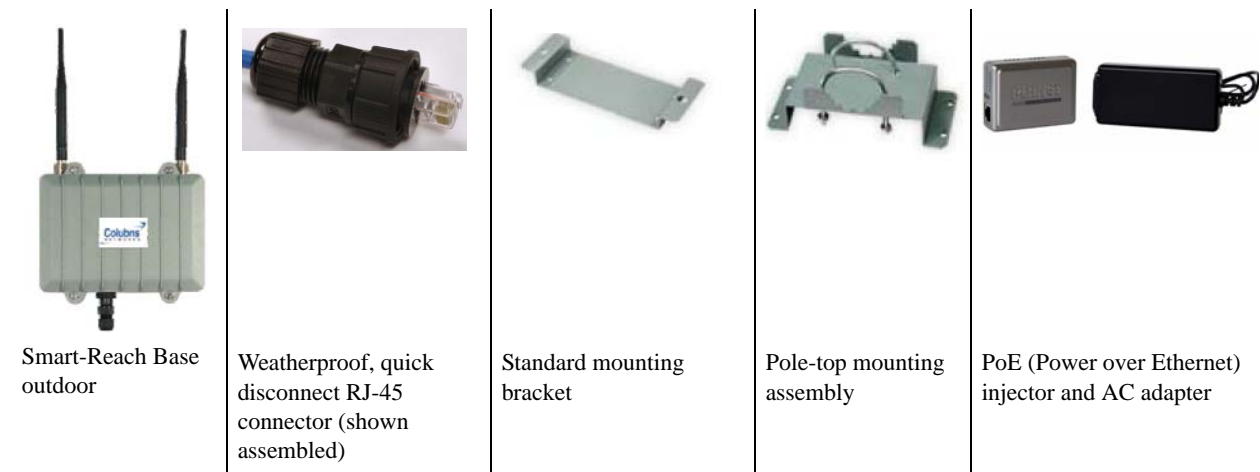


# Smart-Reach™ Base Outdoor Installation and Quick Start Guide

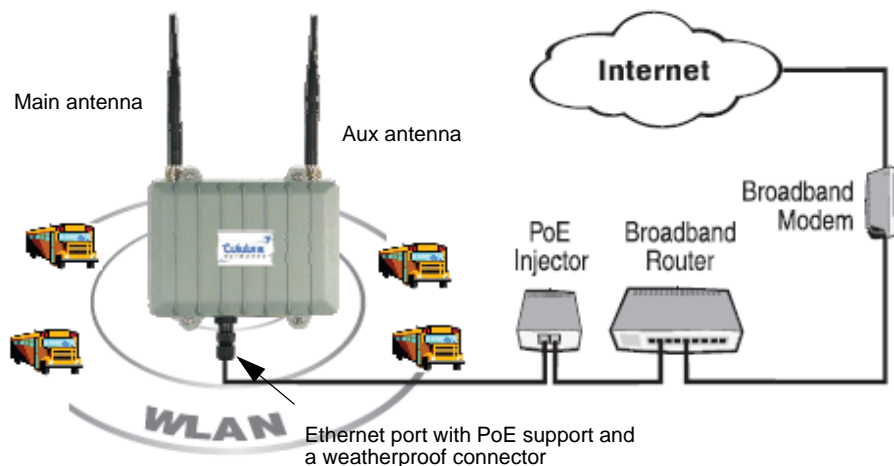
## Package Contents (typical)

The contents of a typical installation package are shown below. The actual contents of your installation package may vary. The installation package may include different antennas, depending on your requirements. Additional component required includes a crossover cable. Purchase the item required for your installation.



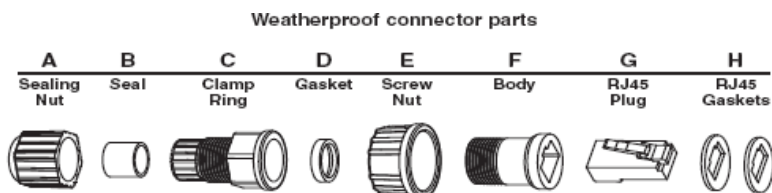
## Installation

In a typical installation the Smart-Reach Base outdoor is mounted outdoors (in a salt-free environment). The Smart-Reach Base outdoor is connected to a PoE injector and then to a broadband router and modem. When directed to connect an Ethernet cable to the Smart-Reach Base outdoor, use either a PoE injector or a PoE-capable switch. The Smart-Reach Base outdoor must be mounted with its antennas pointing up.



## Attaching an Ethernet Cable

To provide a weatherproof seal, the Ethernet port on the Smart-Reach Base outdoor uses a custom weatherproof cable connector. Terminate your Ethernet cable with this connector as described in the following procedure. Use ruggedized, shielded, outdoor-rated Cat 5 Ethernet cable. The cable length should not exceed 300 feet (100 meters).



### CAUTION

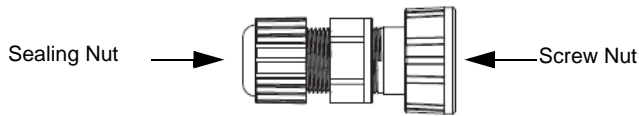
Ruggedized and shielded Ethernet cables must be used for all connections.

- 1 Unpack the nine quick-disconnect items from the plastic bag, identifying all parts as shown in the figure above. **If any of the parts are missing, DO NOT proceed until you get a replacement parts package.** Contact Customer Service.
- 2 If your Cat 5 Ethernet cable has an existing RJ-45 connector that will connect to the Seon equipment, remove the RJ-45 connector by cutting the cable at least ½" (1.2 cm) before the RJ-45 connector.

**Important:** Make a clean cut with a pair of sharp angle cutters. The complete cut through both the cable sheath and all wires must occur in a single cutting motion.

- 3 Hold Clamp Ring (C) horizontally, with its fingers to the left. Insert the Seal (B) into the fingers on the left end so that it is flush with the end of the fingers. Insert the Gasket (D) into the right end, pushing it against the ridge at the end of the threads. The Gasket is beveled on one side. The beveled side should face inwards away from the Screw Nut.
- 4 Thread the Sealing Nut (A) onto the left end of the Clamp Ring (C). Tighten it only enough for it to stay attached.
- 5 Hold the Screw Nut (E) vertically, with the open threads facing up, and drop the Body (F) into it with the RJ-45 connector opening facing up.
- 6 Hold the Clamp Ring (C) vertically below the Screw Nut/Body items and screw the Body into the threads on the Clamp Ring (C). Tighten it only enough to stay attached. The Screw Nut (E) remains loose on the Body (F).
- 7 Remove the white backing paper from one of the RJ-45 Gaskets (H) and press the glued side onto the Body (F) being very careful to align the gasket with the RJ-45 connector shape on the Body (F).
- 8 Remove the backing paper from the second RJ-45 Gasket (H) and press it over the first one, being sure to maintain alignment.
- 9 Tighten the threads between Body (F) and Clamp Ring (C) by hand. **DO NOT tighten between Clamp Ring (C) and Sealing Nut (A). Do not over tighten. Do not tighten with tools.**

The quick-disconnect assembly should look like the figure below when held horizontally, with the Sealing Nut (A) at the left end, and the Screw Nut (E) over the Body (F) at the right end.



- 10** Carefully thread the cleanly-cut end of the Cat 5 Ethernet cable through the Sealing Nut (A) end of the quick-disconnect assembly, and push through approximately 1 foot (30 cm) of cable.

---

**Important:** The next two steps should be performed by someone with experience building Ethernet cables.

---

- 11** Prepare the cable and attach it to the RJ-45 Plug (G) according to the directions included with your crimping tool.
- 12** Before continuing, test the cable with a portable Ethernet cable tester to ensure that the RJ-45 plug (G) is correctly connected.
- 13** Carefully pull the cable slack back through the quick-disconnect assembly until the RJ-45 Plug (G) is almost touching the Body (F). Adjust the cable position so that the RJ-45 Plug (G) fits precisely into the RJ-45 cutout in the Body (F), and press down the plastic tab so the plug fits correctly.
- 14** Tighten the threads between Sealing Nut (A) and Clamp Ring (C) by hand, until the cable is firmly anchored. **Do not over tighten. Do not tighten with tools.**
- 15** Mate the RJ-45 Plug (G) with the socket on the Seon equipment, hold it firmly in place, and tighten the Screw Nut (E) by hand. **Do not over tighten. Do not tighten with tools.**

### Creating a Drip Loop

A drip loop provides additional protection against water running down the Ethernet cable and into the connector. Form the loop as shown in the figure. Ensure the distance between the loop start and end points is at least 6 inches (15 cm) and the cable hangs down at least 10 inches (25 cm).



## Lightning and Electrical Discharge Protection

---



### **WARNING: Surge protection and grounding**

When installing the Smart-Reach Base outdoor, make sure that proper lightning surge protection and grounding precautions are taken according to local electrical code. Failure to do so may result in personal injury, fire, equipment damage, or a voided warranty.

---



### **CAUTION: Equipment damage**

No protection against damage caused by static discharge or a lightning strike is implied and/or covered under warranty. Seon Design strongly advises the following best practices for installing the Smart-Reach Base outdoor. Compliance with these guidelines can help reduce the potential for damage from atmospheric static discharge during electrical storms.

---

- Ensure that the Smart-Reach Base outdoor is well grounded, in accordance with the NFPA 70 National Electrical Code and any pertinent local codes.
- Use a ruggedized, shielded, outdoor-rated Ethernet cable to connect to the Smart-Reach Base outdoor.
- If possible, ensure that a properly grounded lightning rod or other static dissipation device is placed higher than the Smart-Reach Base outdoor.
- Attach lightning surge suppressors to each Smart-Reach Base outdoor antenna post.
- When a long outdoor run of Ethernet cable is used, maximum length 300 feet (100 meters), install an Ethernet surge suppressor as close as possible to the Smart-Reach Base outdoor, ideally within 2 feet (0.5 meters). This helps reduce the effects of any charge carried by the cable to the Smart-Reach Base outdoor.

The following third-party products (available at [www.hyperlinktech.com](http://www.hyperlinktech.com)) or their equivalents are compatible with the Smart-Reach Base outdoor.

- **Antenna surge suppressor:** N-Male to N-Female Bulkhead 0-6 GHz Coaxial Lightning Surge Protector, part number AL6-NMNFB-9.
  - **PoE lightning protector:** weatherproof PoE compatible 10/100 base-T CAT5 lightning protector, part number AL-CAT5W.
- 



### **WARNING: Surge protection and grounding**

All lightning surge suppressors **MUST** be grounded to an earth ground to be effective.

---

## Testing the Wireless Network

The Smart-Reach Base outdoor is configured to operate with static IP addresses.

- 1 Remove the crossover cable and use a standard Ethernet cable to connect the PoE injector **Data In** port to the network on which the Smart-Reach Base outdoor will be used.
- 2 Enable your computer's wireless network interface, and set a static IP address that doesn't interfere such as **172.24.1.10**.

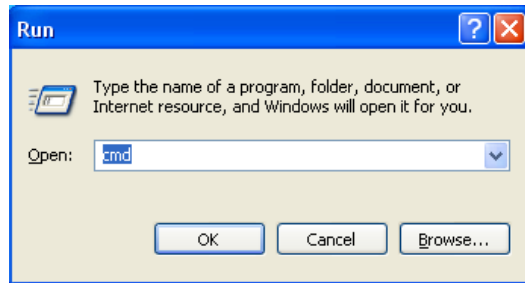
For example, in Windows XP, use **Control Panel > Network Connections > Local Area Connection > Properties > Internet Protocol (TCP/IP) > Properties**.

---

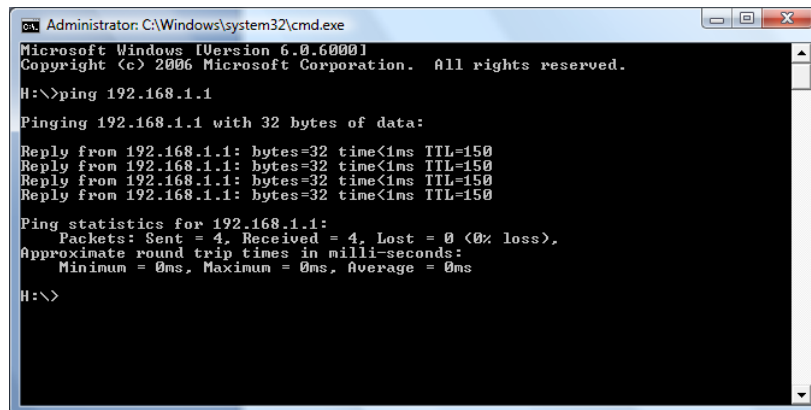
- 3 Connect to the wireless network. For example, from the Windows XP Start menu, select **Settings > Network Connections > Wireless Network Connections**. The list of available wireless networks appears. Select Seon Network (default) and then **Connect**.
- 4 Confirm that you can browse other devices using the wireless network.

## Using the Ping Command

- 1 On the Start menu, click Run.



- 2 Type cmd and click OK.
- 3 In the command line type `ping xxx.xxx.xxx.xxx` (the IP address of the machine you wish to contact).
- 4 If you successfully ping the machine, you will get a reply as shown.



- 5 If your ping is not successful, your requests will time out or you will receive a notice that the recipient could not be contacted.

## Configuration

The Smart-Reach Base for outdoor applications has pre-configured Seon default settings. To make minor changes to configuration, read this section. The Smart-Reach Base outdoor is managed via its Web-based management software using Microsoft® Internet Explorer® 7.0 or Mozilla Firefox®2.0 or higher.



## CAUTION: Wireless Security

The Smart-Reach Base outdoor ships with wireless security options enabled. Seon strongly recommends that once the Smart-Reach Base outdoor is installed, verify the wireless security options to properly safeguard the wireless network from intruders.

---

## Configuring the Network Settings of your Computer

- 1 Use a crossover cable (additional component) to connect your computer's LAN port to the PoE injector **Data In** port.
- 2 Connect a standard Ethernet cable from the PoE injector **Data and PoE Out** port to the Smart-Reach Base outdoor.
- 3 Configure your computer to use a static IP address in the range **172.24.1.2** to **172.24.1.254**. The subnet mask of **255.255.0.0** is entered automatically. Set the default gateway to **172.24.1.1** and DNS server to **192.168.1.1**.  
For example, in Windows XP, use **Control Panel > Network Connections > Local Area Connection > Properties > Internet Protocol (TCP/IP) > Properties**.
- 4 Disable any wireless connection.

---

**Important:** To perform any additional configurations, assign an IP address, or to reset the Smart-Reach Base outdoor to Factory Defaults, contact Customer Service.

---

## FCC Information to the User

This equipment has been tested and found to comply with the limits for a digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment causes harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experience radio/TV technician for help.

## Customer Service Contact Information

Toll free telephone 1-877-630-7366 or telephone 604-941-0880

Email: [service@seon.com](mailto:service@seon.com)

©February 2009. Seon Design Inc. All rights reserved. Printed in Canada. [www.seon.com](http://www.seon.com)