smartBridges

to the future ...

Quick Installation Guide

airHaul
Nexus PRO TOTAL

airHaul
Nexus TOTAL 241

airHaul
Nexus TOTAL 551

airPoint
Nexus PRO TOTAL

airPoint
Nexus TOTAL 241

airPoint
Nexus TOTAL 551

airClient
Nexus PRO TOTAL

airClient
Nexus TOTAL 241

airClient
Nexus TOTAL 551

airClient
TOTAL 241

Intelligent Wireless Platform

unwiring our world™

Contents

Chapter 1 - Preface

This Installation Guide is for the networking professional who installs and manages the smartBridges' Intelligent Nexus Platform of Wireless Backhauls, Access Points and Client devices. The smartBridges' TOTAL series of products come with an integrated antenna contained within the enclosure for simple out-of-the-box installation.

- airHaul Nexus PRO™ TOTAL (sB3012)
- airHaul™ Nexus TOTAL 241 (sB3013)
- airHaul™ Nexus TOTAL 551 (sB3014)
- airPoint Nexus PRO™ TOTAL (sB3212V or H)
- airPoint™ Nexus TOTAL 241 (sB3213V)
- airPoint™ Nexus TOTAL 551 (sB3214V)
- airClient Nexus PRO™ TOTAL (sB3412)
- airClient™ Nexus TOTAL 241 (sB3413)
- airClient™ Nexus TOTAL 551 (sB3414)
- airClient™ TOTAL 241 (sB3415)

The initial hardware installation, setup and mounting of the equipments are explained in this guide. To install smartBridges' products, you need to have a fundamental understanding of Radio Frequency (RF) and networking.

In Chapter 2, you will find safety precautions as well as a list of the box contents and tools needed for installation. The installation process, which can be completed before mounting the unit in the outdoor environment, is explained in Chapter 3.

Chapter 4 describes how to conduct a site survey to choose a suitable mounting location and outlines the mounting process for various configurations. Instructions are also provided on safely grounding the units.

Finally in Chapter 5, the antenna alignment process is explained.

Related Publications

These documents provide complete information about each product in the TOTAL series of radio equipments.

- User Guide
- Release Notes
- Technical Specification

For the latest information on the products, please visit our website at
http://www.smartbridges.com/

Technical Support Center

Comprehensive technical support by dedicated smartBridges engineers is available to all customers through the smartBridges support center website. The website provides updated tools and documents to help troubleshoot and resolve technical issues related to smartBridges products and technologies. To access the technical support resources, please visit the support center website at **http://www.smartbridges.com/support/**

You will need to register for certain services and downloads on the smartBridges support center website.

Chapter 2 - Before you Begin

This chapter provides the safety precautions that you need to follow while installing and operating the smartBridges units. It contains the following sections:

- Safety Precautions
- Required Tools and Cables
- Box Contents

Safety Precautions

For your safety and to achieve a proper working installation, please read and follow these safety precautions:

1. Only trained and qualified personnel should install, replace, or service this product.

2. Select your installation site with safety and performance in mind. Conduct a proper site survey before deployment.

3. Discuss your plans for installation with your power company. Ask them to visit your proposed installation site.

4. Plan your installation carefully and completely before you begin. Never perform the installation alone.

5. Do not locate the product near overhead power lines, circuits or electrical light sources or where it can come into contact with them. During installation, take extreme care not to come into contact with such circuits, as they may cause serious injury or death. For proper installation and grounding of the equipment, please refer to national and local codes.

Note:

Electric power lines and telephone lines look alike.

6. This product must be grounded. Never operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain whether suitable grounding is available.

7. When installing the products, remember:
   a. Not to use a metal ladder.
   b. Not to work on a wet or windy day or when there is lightning.
   c. To dress properly: wear shoes with rubber soles and heels, rubber gloves and long sleeved shirt or jacket.

8. If any part of the equipment should come into contact with a power line, do not touch it or try to remove it yourself. Call your local power company to have it removed safely. If an accident occurs involving power lines, please call for qualified emergency help immediately.

9. Do not work on the equipment or connect or disconnect cables during periods of lightning activity.

10. Do not operate this product near unshielded blasting caps or in an explosive environment.

11. In order to comply with Radio Frequency (RF) exposure limits, the antennas for this product should be positioned at not less than 6.6 ft (2 m) from the human body.

Required Tools and Cables

You will require the following tools to mount the TOTAL unit:

- 6 mm wrench or socket
- #2 Phillips screwdriver
- Crimping tool
- You may also require tools for user-supplied hardware or fasteners
- CAT5 cable of required length. smartBridges recommends the use of a shielded CAT5 cable rated for outdoor use.

Box Contents

Each TOTAL unit box contains the items listed below. Ensure that all items are included in the shipment. Notify your vendor if any item is damaged or missing.

1. TOTAL unit

2. Power over Ethernet (PoE) Injector (with mounting screws placed inside the enclosure)

3. Power module and AC power cord

4. User Guide (Documentation CD)
5. Drilling Template
6. Mounting bracket
7. Quick Installation Guide (this document)

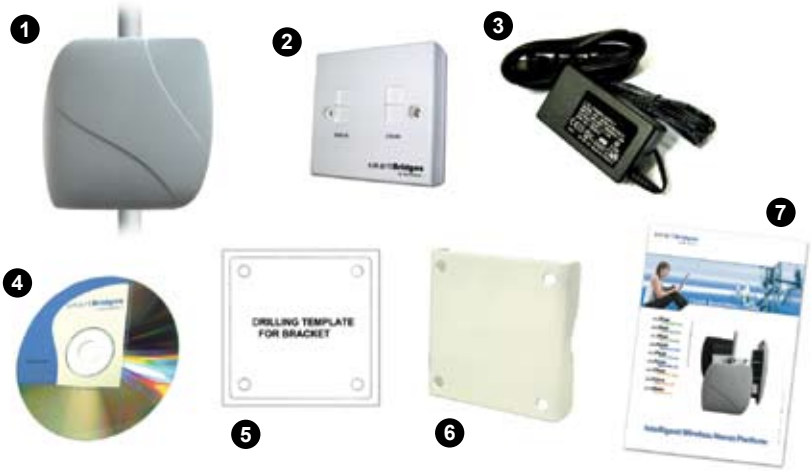


Figure 2-1 Photos of Accessories packed with TOTAL unit.

Note:
The smartBridges equipment shipping box is designed to be eco-friendly. 99.9% of packaging material by weight is bio-degradable.

8. An accessories pouch that contains the following items:
   a. M8 mm Anchor Hex nuts (4 pieces)
   b. M8 mm Anchor washers (4 pieces)
   c. M8X60 mm Anchor bolts (4 pieces)
   d. M8 mm SS nuts (4 pieces)
   e. M8 mm SS plain washers (4 pieces)
   f. M8 mm SS spring washers (4 pieces)
   g. M8X75 mm SS bolts (4 pieces)

Chapter 3 – Installation

This chapter provides the hardware installation information for smartBridges' TOTAL series of products which come with an integrated antenna. It shows the steps for installation and connections of all the components before mounting in the outdoor location. This chapter includes the following sections:

- Typical Radio System Installation
- Connections
- Powering and Resetting the Unit

Typical Radio System Installation

These units are designed to be mounted in an outdoor environment, typically on a tower or building. The units are shipped with all the required accessories for an out-of-the-box installation. For mounting information, please refer to Chapter 4.

Figure 3-1 below gives an overall view of how the configuration should look like once you have completed the installation procedures outlined in this chapter and chapter 4.

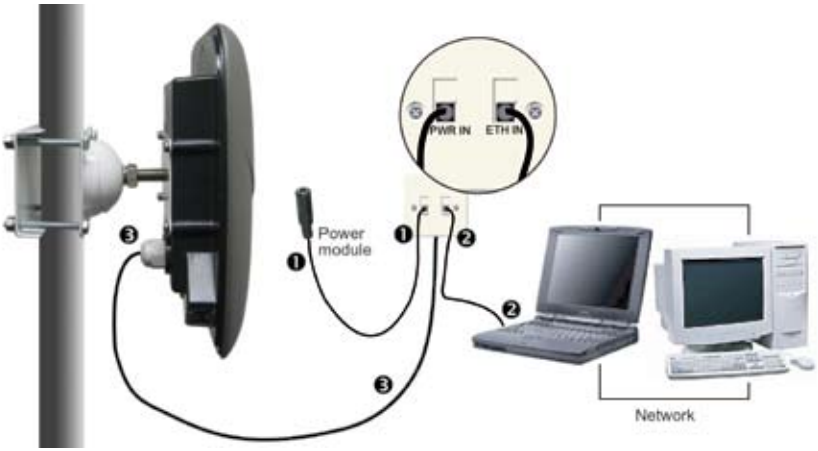


Figure 3-1 Connections for smartBridges' TOTAL unit

PoE Injector Connections

After grounding the PoE Injector, it can be mounted on a wall or secured otherwise in an accessible location. Figure 3-3 illustrates the placement of the RJ11 and RJ45 cables.

Figure 3-3 PoE Injector Indicators and Connectors

Connecting the PoE Injector:

1. Connect the PoE Injector to the power module via the PWR IN RJ11 jack (see Figure 3-3).

2. Connect the PoE Injector to the computer or network via the ETH IN RJ45 jack (see Figure 3-3).

3. Connect the PoE Injector via the RJ45 jack running from the ETH OUT port on the back to the Ethernet Port ETH A on the unit (as shown in Figures 3-4a and 3-4b).

Note:
The RJ45 cable connector pin needs to be removed and re-attached in order to fit the ETH port gland on the unit. This is to ensure that the connections are fully weather-proofed. Please refer to the following instructions on connecting the RJ45 cable.

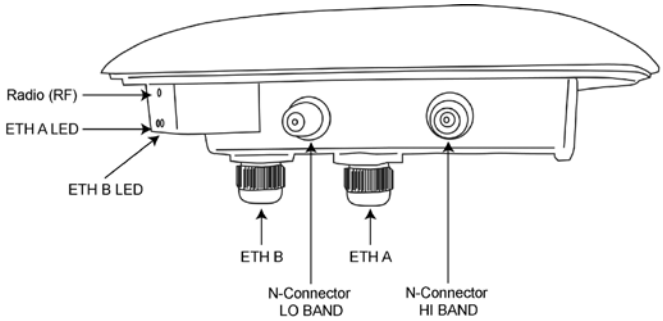


Figure 3-4a Connections on the PRO TOTAL unit

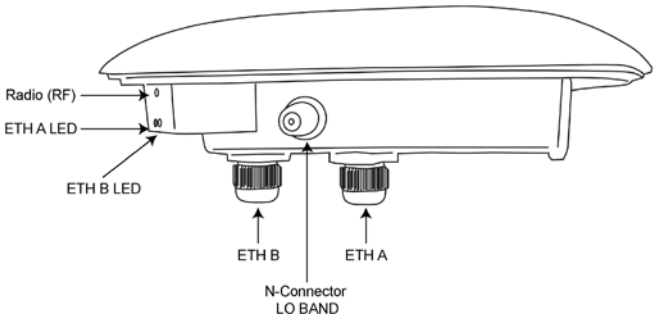


Figure 3-4b Connections on the airHaul and airPoint Nexus TOTAL 241 units (Low Band)

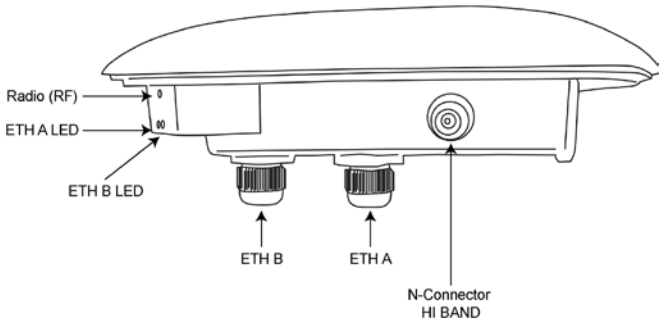


Figure 3-4c Connections on the airHaul and airPoint Nexus TOTAL 551 units (High Band)

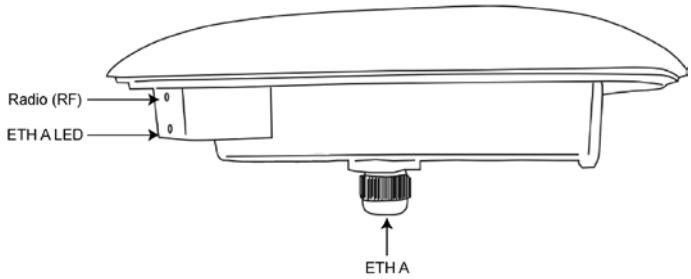


Figure 3-4d Connections on the airClient Nexus TOTAL 241 (Low Band) and airClient Nexus TOTAL 551 (High Band) units

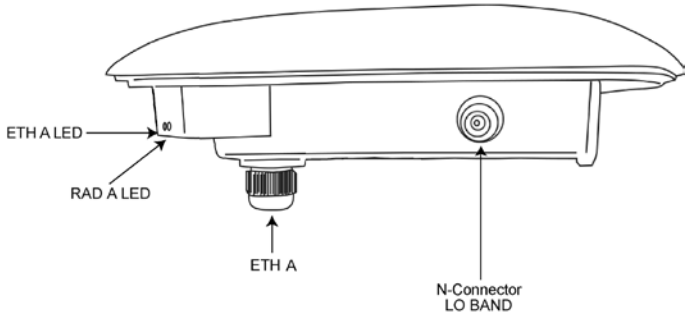


Figure 3-4e Connections on the airClient TOTAL 241 (Low Band) unit

RJ45 Cable Connection:

1. Remove the RJ45 connector pin from the cable using pliers or other tool and pass the cable through the ETH gland outer and inner covers as shown in figure 3-5.

2. Remove 5mm of the outer shield cover for each colored inner cable and trim them.

3. Match the color of each cable sequentially to the other end with respect to the connector pin number and place it in the connector slot.

4. Use the crimping tool to crimp the cables and re-attach the RJ45 connector pin.

5. Screw on the inner gland cover onto the unit and then screw on the outer gland cover onto the inner gland cover. Ensure that the cable is covered completely by the outer gland cover with no room for water to enter.

Figure 3-5 Crimping the RJ45 Cable

Note:
The second RJ45 port, ETH B, as shown in Figure 3-4a/b/c, is available for daisy chaining to another device. To connect the second device, follow the procedure as outlined above. This is not applicable for the airClient Nexus TOTAL (sB3413 and sB3414) and airClient TOTAL (sB3415) which does not have a second ethernet port.

Antenna Connections

The TOTAL series of products provides the flexibility of using an external antenna through the N-Connector.

Note:

This is not applicable for the airClient Nexus TOTAL (sB3413 and sB3414) which do not have an external antenna connector.

To connect the external antenna:

1. Connect the antenna RF cable to the correct N-Connector (please see Figure 3-4a/b/c/e).

After completing all the connections, the radio system should look similar to the following figure.

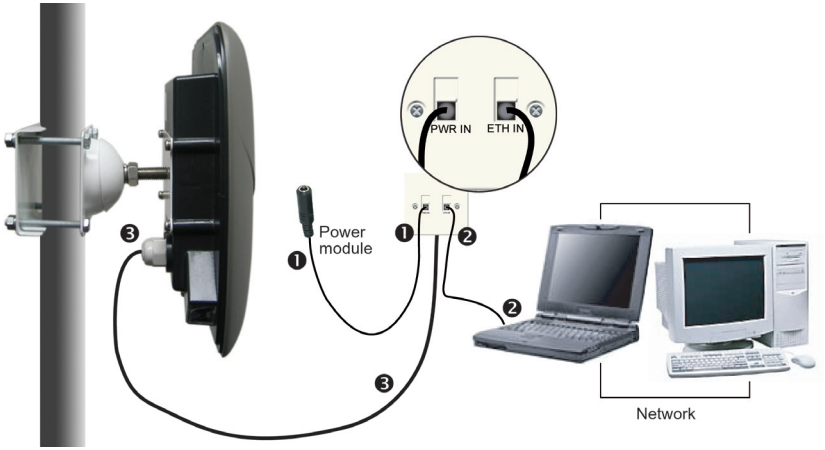


Figure 3-6 Typical TOTAL radio system

Powering and Resetting the Unit

After performing the installations and connections as shown in Figure 3-6, you may boot up

and log in to the unit using the Web GUI. It is recommended that the unit be configured and tested on the bench before mounting in the outdoor location to ensure that it is performing satisfactorily. Please refer to the relevant product User Guide for configuration information. You can access the User Guide from the support center website at **http://www.smartbridges.com/support/**

In order to return the device to default factory settings, you may use the reset button on the side of the PoE Injector to reset the unit. You will need to press and hold the reset button using a small pointed object such as a paperclip for 15-20 seconds. Refer to Fig 3-3.

During boot up, reset or other operations, the LED display will flash according to the table below.

Table 3-1 LED Display

<table>
<tr><th>Conditions</th><th>ETH A</th><th>ETH B</th><th>Radio RF</th></tr>
<tr><td>Boot up</td><td>Alternate flash</td><td>Alternate flash</td><td>Off</td></tr>
<tr><td>Reset</td><td>Simultaneous Flash</td><td>Simultaneous Flash</td><td>Simultaneous Flash</td></tr>
<tr><td>Restore defaults</td><td>Simultaneous Flash</td><td>Simultaneous Flash</td><td>Simultaneous Flash</td></tr>
<tr><td>Firmware Upgrade</td><td>Simultaneous Flash during the whole process</td><td>Simultaneous Flash during the whole process</td><td>Simultaneous Flash during the whole process</td></tr>
<tr><td>Associated as Remote/NAT/ Router</td><td colspan="2" rowspan="3">Continuous Glow
(if Ethernet Link is up)</td><td>Continuous Glow</td></tr>
<tr><td>Not associated as Remote/NAT/ Router</td><td>Regular Blink</td></tr>
<tr><td>As Root Device</td><td>Fast Burst Blink</td></tr>
</table>

Note:

For the airClient Nexus TOTAL (sB3413 and sB3414) and airClient TOTAL (sB3415), please refer to the column for ETH A only as it does not have a second ethernet port (ETH B).

Chapter 4 - Mounting

This section describes how to physically mount the smartBridges' TOTAL series of products on the site. The chapter contains the following sections:

- Important Considerations when Choosing the Mounting Location
  1. Link Distance
  2. Signal Path Clearance (Fresnel Zone)
- Mounting the TOTAL Unit
  1. Tower or Pole Mounting
  2. Wall Mounting
- Changing Antenna Polarization

Important Considerations when Choosing the Mounting Location

Each Radio Frequency (RF) application is a unique installation. A site survey is needed to determine the optimum use of the TOTAL unit to optimize link distance, coverage, and network performance. The most important considerations are link length and clearance from obstacles.

The following operating and environmental conditions should be taken into account when performing a site survey:

- Data rates - Sensitivity and range are inversely proportional to data bit rates. The data rate increases with a decrease in link distance and/or decrease in receiver sensitivity.

- Antenna placement - Proper antenna configuration is critical in maximizing radio range in maximizing radio range. In general, greater heights allow for longer distances and the avoidance of obstructions. However, do not install the TOTAL unit at the extreme top of a tower, radio mast or high building to minimize risk of being directly struck by lightning. It is advisable to install it at least 2 feet below such heights. Extra height may also increase potential interference from other unlicensed radio systems.

Note:

Do not install the unit in the proximity of a TV or Radio receiving mast.

- Physical environment - Clear, open areas provide better radio range than enclosed, crowded areas. Physical obstructions such as buildings, trees, or hills can hinder performance of wireless devices. Avoid locating the TOTAL unit where there is an obstruction between the sending and receiving antennas.

1. Link Distance

If there is no obstacle in the signal path, the maximum link distance depends primarily on the type of antenna and the free space path loss. Ensure that your proposed mounting site is within range of the remote antenna. To help estimate the range, the TOTAL unit has a built-in Link Budget Calculator under Tools in the Web GUI which is accessible upon logging into the unit. Please refer to the product User Guide for more information on this tool.

2. Signal Path Clearance (Fresnel Zone)

A radio beam travels from one antenna to another in a straight line. Therefore, the path between the antennas must be free of major obstacles. The effects of obstacles and terrain, both along and near the path, have a significant bearing on the propagation of radio signals and can cause both interference and signal cancellation.

When choosing a site, consider the effects of the following common obstacles:

- Trees and large plants - A tree directly in the signal path can completely block the signal. You can avoid this by leaving sufficient clearance above the treetops. You may need to leave extra clearance above smaller tress to allow for future growth into the signal path.

- Man-made obstacles - A large round building such as a gas storage reservoir or water tower that is partially in the path may cause some blocking. These obstacles may also reflect RF, which can lead to multi path interference with other receivers. Objects in or near the path that have rectangular surfaces can block and diffract signals over and around them.

- Earth surface - The earth's curvature may also interfere with the signal if the antenna is mounted too low. Mount the antenna just high enough to allow adequate clearance from the ground.

Note:
For tower installations, you may need to climb the tower to verify a clear signal path to the other antenna.

Table 4-1 (below) is a guide to determine the amount of clearance to leave around the signal path. Install the bridge or external antenna where obstacles along the propagation path, including the ground, are no closer than these values.

Table 4-1 Fresnel Zone Clearance Guidelines for Frequencies

Total Path Length in Miles (kilometers)	Clearance Radius around Signal path in Feet (meters) 2.4GHz	Clearance Radius around Signal Path in Feet (meters) 5.x GHz
4 (6)	27.6 (8.4)	17.9 (5.4)
6 (10)	33.8 (10.3)	22.0 (6.7)
8 (13)	39.1 (11.9)	25.4 (7.7)
10 (16)	43.7 (13.3)	28.4 (8.6)
12 (20)	47.9 (14.5)	31.1 (9.4)

For more information on site survey techniques, please visit
http://www.smartbridges.com/education/

Note:
Before proceeding to mount the units in the outdoor location, it is strongly recommended that they be configured and tested on the bench first to ensure that they operate satisfactorily. Please refer to the product User Guide for configuration information.

Mounting the Equipment

The TOTAL unit is shipped with mounting hardware that accommodates tower, mast or rooftop installations. This section describes the mounting process for each installation. The unit must be professionally installed. The installer must understand wireless techniques, antenna alignment, adjustment and grounding techniques.

The TOTAL unit is designed for a quick and simple out-of-the-box installation. Remove the unit from the shipping box and locate the mounting plate with the M14 HEX bolt and nut.

1. Tower or Pole Mounting

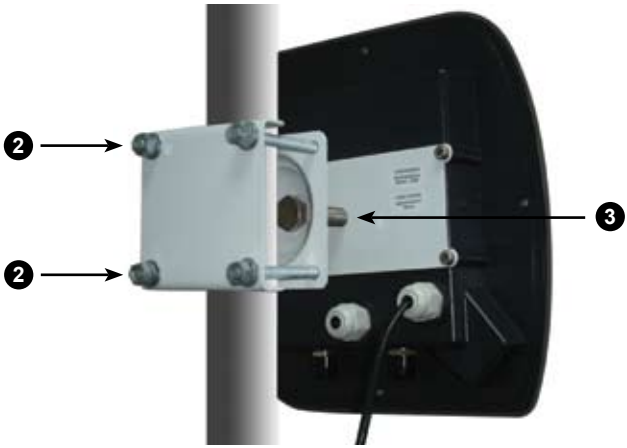


Figure 4-1 Tower or Pole Mounting

To mount the unit on a tower or pole, follow the steps below:

1. Find a suitable mounting location on the tower and hoist the entire assembly to the selected location.

2. Position the assembly as shown in Figure 4-1 and attach the mounting plate to the tower or pole using the 4 supplied M8x75 mm SS bolts, which fit 0.5 to 2.0 inch poles. Use the two sets of washers between the bracket and the nut/bolt head (see Figure 4-1).

3. Loosen the M14 HEX nut and adjust the vertical and horizontal alignment of the unit to point towards the remote base station.

2. Wall Mounting

Follow these steps to wall mount the TOTAL unit using the same wall/pole mounting plate:

1. Choose a location on the wall where you are going to install the unit.
2. Mark the drill hole locations on the wall using the template provided.
3. Drill the wall to a depth of 2 inches (50 mm) with a 0.3 inch (8mm) diameter.
4. Drive the M8X60 mm Anchor bolt inside each hole and ensure that it is firmly fixed to the wall.
5. Place the mounting plate over the Anchor bolts already inserted onto the wall and secure them with the 4 M8 mm Anchor HEX nuts provided. Use the washer between the nut and the bracket (see Figure 4-2).
6. Loosen the M14 HEX nut and adjust the vertical and horizontal alignment of the antenna to point towards the remote base station.

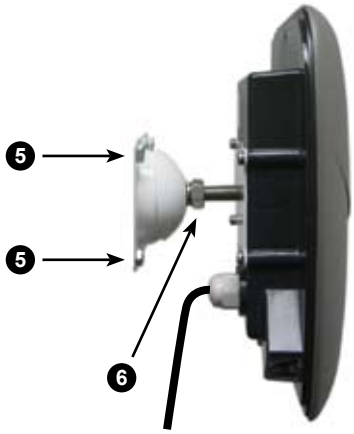


Figure 4-2 Wall Mounting

Changing the Antenna Polarization

Some interference problems can be solved by changing the antenna polarization (for TOTAL backhauls and client devices only). To change the polarization from horizontal to vertical or vice versa, loosen the M14 HEX nut and rotate the unit by 90 degrees while ensuring that the LED display panel remains on the lower side. Refer to the Antenna Polarization label located on the back of the unit when changing polarization.

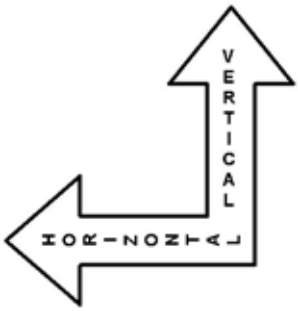
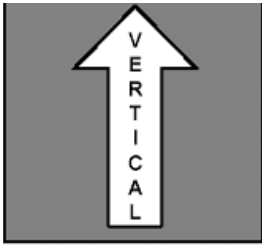
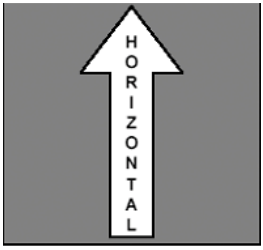


Figure 4-3 Antenna Polarization Label

The airPoint Nexus PRO TOTAL access point is available with either a vertical or horizontal polarization (sB3212V or sB3212H) and cannot be rotated to achieve the other polarization. The airPoint Nexus TOTAL 241 (sB3213V) and airPoint Nexus TOTAL 551 (sB3214V) access points are available with only the vertical polarization.

The polarization is indicated by the Antenna Polarization Labels (vertical or horizontal) as shown below and the arrow indicates which direction is up. Ensure that the device is mounted the correct way up in order to maintain the weatherproofing.





Chapter 5 - Antenna Alignment

This section covers the antenna alignment process to achieve the best radio link performance. The goal when positioning the unit is to align the antenna for maximum signal strength. In addition, TOTAL radio units incorporate RSSI Audio Tone to simplify the antenna alignment process. The RSSI Audio tone is convenient to use and adequate for most installations.

A built-in speaker is provided to monitor the RSSI Audio tone. The TOTAL radios can be aligned to any angle with in a +/- 30 degree span for a given polarization.

Note:
This chapter is not applicable for the TOTAL access points and airClient TOTAL (sB3415) as they do not have the RSSI Audio Tone feature.

Establishing Association

On short links where the remote radio is visible, point the unit in the approximate direction and use the site survey tool to find the radio at the far end and establish a more precise association. The integrated antenna is located on the front side of the enclosure.

For longer links where there is no visibility, use the GPS coordinates of the unit at the far end and calculate its compass direction from the near unit. Point the unit along that precise direction.

Once the association is established, you can align the antenna using RSSI Audio Tone from the built-in speaker on the unit. The RSSI Audio produces a tone ranging from 523 Hz (low pitch) to 2093 Hz (high pitch) that is proportional to the received signal level. The RSSI Audio Tone provides instantaneous feedback as you move the unit with built-in antenna within the enclosure.

Aligning the Antenna Using RSSI Audio Tone

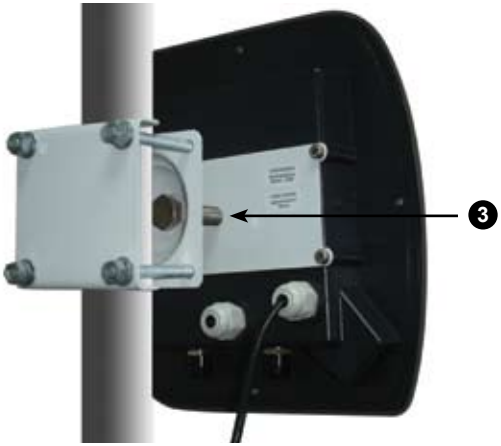


Figure 5-1 Aligning the Unit

To position the antenna using the RSSI Audio tone, follow these steps:

1. Slowly pan the unit to the left and right of the signal path and monitor the RSSI Audio Tone for peaks in signal strength. Be sure to swing the unit in an arc of 30 degrees to each side or in a hemispherical cut, while keeping the desired polarization to ensure that the signal passes through the main and side lobes of the antenna.

2. Return the unit to the position where the signal is strongest, or in the case of two similar peaks, halfway between them.

3. Secure the unit by tightening the M14 HEX nut.

After installing and mounting the unit and antennas, please refer to the relevant product User Guide for more detailed information on configuring the wireless links. For technical updates, please visit the Support Center website at **http://www.smartbridges.com/support/**

For typical deployment scenarios, please visit our website at **http://www.smartbridges.com/products/**

Appendix A - Declarations of Conformity

This chapter provides declarations of conformity and regulatory information for smartBridges' Intelligent Nexus Platform of wireless backhauls, access points and client devices.

This appendix contains the following sections:

- FCC Declaration of Conformity Statement
- Declaration of Conformity for RF Exposure
- Department of Communications-Canada Declaration of Conformity Statement
- European Community - Declaration of Conformity Statement

FCC Declaration of Conformity Statement

Models	:	sB3012, sB3013, sB3014, sB3212V/H, sB3213V, sB3214V, sB3412, sB3413, sB3414, sB3415
FCC ID	:	PWG NEXUS 1 & PWG NEXUS 2
Manufacturer	:	smartBridges Pte Ltd 745, Toa Payoh Lorong 5 #04-01, Singapore 319455

This device complies with Part-15 rules. Operation is subject to the following 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.

This equipment has been tested to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and radiates radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference. However, there is no guarantee that interference will not occur. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.

- Increase separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician.

Note:
To meet regulatory restrictions, the TOTAL series of radio equipment uses N type antenna connector and the external antenna must be professionally installed.

Declaration of Conformity for RF Exposure

The TOTAL series of radio equipment has been found to be compliant with the requirements set forth in CFR 47 Section 1.1307 addressing RF Exposure from radio frequency devices as defined in Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields. The antennas should be positioned more than 7 ft (2 m) from the human body.

The TOTAL series which includes the airHaul Nexus TOTAL, airPoint Nexus TOTAL, airClient Nexus TOTAL and airClient TOTAL; the Nexus PRO series which includes the airHaul² Nexus PRO and airPoint² Nexus PRO; and the Nexus PRO TOTAL series which includes the airHaul™ Nexus PRO TOTAL, airPoint™ Nexus PRO TOTAL and airClient™ Nexus PRO TOTAL are compliant with EN 50835 for RF exposure.

This transmitter may not be located or operating in conjunction with other transmitters or antennas separated by less than 7 ft (2 m).

Department of Communications - Canada

Canadian Compliance Statement

This Class B digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.

This device complies with Class B Limits of Industry Canada. Operation is subject to the following 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.

smartBridges' TOTAL series of radio equipment is certified by the requirements of RSS-210 issue 5, RSP 100, and RSS 102 for 5-GHz spread spectrum devices.

European Community

Declaration of Conformity with Regard to the R&TTE Directive 1999/5/EC

English:	This equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Deutsch:	Dieses Gerät entspricht den grundlegenden Anforderungen und den weiteren entsprecheneden Vorgaben der Richtlinie 1999/5/EU.
Dansk:	Dette udstyr er i overensstemmelse med de væsentlige krav og andre relevante bestemmelser i Directiv 1999/5/EF.
Español:	Este equipo cumple con los requisitos esenciales asi como con otras disposiciones de la Directive 1999/5/EC.
Français:	Cet appareil est conforme aux exigencies essentialles et aux autres dispositions pertinantes de la Directive 1999/5/EC.
Íslenska:	Þessi búnaður samrýmist lögboðnum kröfum og öðrum ákvæðum tilskipunar 1999/5/ESB.
Italiano:	Questo apparato é conforme ai requisiti essenziali ed agli altri principi sanciti dalla Direttiva 1999/5/EC.
Nederlands:	Deze apparatuur voldoet aan de belangrijkste eisen en andere voorzieningen van richtlijn 1999/5/EC.
Norsk:	Dette utstyret er i samsvar med de grunnleggende krav og andre relevante bestemmelser i EU-directiv 1999/5/EC.
Português:	Este equipamento satisfaz os requisitos essenciais e outras provisões da Directiva 1999/5/EC.
Suomalainen:	Tämä laite täyttää direktiivin 1999/5/EY oleelliset vaatimukset ja on siinä asetettujen muidenkin ehtojen mukainen.
Svenska:	Denna utrustning är i överensstämmelse med de väsentliga kraven och andra relevanta bestämmelser i Direktiv 1999/5/EC.

The following CE mark is affixed to the TOTAL radio equipment.

CE 1313 ⓘ

The following smartBridges wireless LAN products use Coded Orthogonal Frequency Division Multiplexing (COFDM) radio technology.

airHaul² Nexus PRO [sB3021]	airPoint² Nexus PRO [sB3221]	
airHaul Nexus [sB3010]	airPoint Nexus [sB3210]	
airHaul Nexus PRO TOTAL [sB3012]	airPoint Nexus PRO TOTAL [sB3212]	airClient Nexus PRO TOTAL [sB3412]
airHaul Nexus TOTAL 241 [sB3013]	airPoint Nexus TOTAL 241 [sB3213]	airClient Nexus TOTAL 241 [sB3413]
airHaul Nexus TOTAL 551 [sB3014]	airPoint Nexus TOTAL 551 [sB3214]	airClient Nexus Total 551 [sB3414]

These products are designed for wireless point-to-point and point-to-multipoint links conforming to the following standards:

Europe - European Union Notice

Radio Products with CE marking comply with R&TTE Directive (1995/5/EC) issued by the Commission of European Community.

Compliance with this Directive implies conformity to the following European norms (corresponding international standards are given in brackets).

EN 60950 (IEC 60950) - Product and Safety

EN 301.893 – Technical Requirements of Broadband Radio Access Networks; 5 GHz high performance RLAN

EN 301.489 – General EMC requirement for radio equipment

EN 55022 (CISPR 22) – Electromagnetic Interference

EN 301.489 (IEC 61000 – 4 – 2, 3, 4, 5, 6, 8, 11) – Electromagnetic Immunity

EN 300.328 – General EMC requirements: 2.4 GHz ISM Band

Compliance with UK's regulatory body OFCOM standards – EMI (5.725 to 5.85 GHz)

Products containing the radio transmitters are labeled with the CE marking

smartBridges External Multi-band Antennas

Dish, 29/21 dBi, 24" [sB3802-2921]	Panel, 90 degree, 12 dBi, V Pol [sB3802-1290V]
Dish, 23/15 dBi, 12" [sB3802-2315]	Panel, 90 degree, 12 dBi, H Pol [sB3802-1290H]
Panel, 17/15 dBi [sB3802-1715]	

Caution:
During deployment, the RF power should be set so that the total EIRP of the system complies with the power transmission levels set by the local regulatory body.

Wireless LAN and your Health

Wireless LAN products, like other radio devices, emit radio frequency electromagnetic energy. The level of energy emitted by wireless LAN devices is far less compared to wireless devices like mobile phones. Because wireless LAN products operate within the guidelines and recommendations found in radio frequency safety standards, it is understood that wireless LAN is safe for use by consumers. These standards and recommendations reflect the consensus of the scientific community and result from the deliberations of panels and committees of scientists who continually review and interpret the extensive research literature.

Regulatory Information

This device must be installed and used in strict accordance with manufacturer's instructions as described in the user documentation that comes with the product. For country specific radio and telecommunications approvals, please consult local authorities. In some situations or environments, the use of wireless devices may be restricted by the proprietor of the building or responsible representatives of the organization. These situations may for example include:

Using the wireless equipment onboard airplanes, or in any other environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies to the use of wireless equipment in a specific organization or environment (e.g. airports), you are required to ask for authorization to use

this device prior to deploying the equipment.

The manufacturer is not responsible for any radio or television interferences caused by unauthorized use or modification of the devices included in the manufacturer's kit, or the substitution or attachment of connecting cables and equipment other than that specified by the manufacturer.

The correction of interference caused by such unauthorized modification, substitution or attachment will be the responsibility of the user.

The manufacturer and its authorized resellers or distributors are not liable for any damage or violation of government regulations that may arise from failing to comply with these guidelines.

Declaration of Compliance – RoHS & WEEE

smartBridges Pte Ltd hereby declares that the smartBridges products listed above are RoHS and WEEE compliant, meeting the European Union RoHS (Restriction of Hazardous Substances) and WEEE Directives (Waste Electrical and Electronic Equipment).

smartBridges bases its declaration on information provided by its manufacturing partners and/or component suppliers. It is the responsibility of the third parties to ensure that the proclaimed compliance is truly adhered. In no event shall smartBridges be held legally responsible for the declarations of compliance provided by the third parties.

Signed by

Nimesh Parikh, CEO
smartBridges Pte Ltd

Appendix B – Warranty Information

smartBridges Limited Warranty, Disclaimer of Warranty, and End User License Agreement

Check latest agreement at URL http://www.smartbridges.com/support/warranty.asp

Hardware

smartBridges warrants that commencing from the date of purchase from a smartBridges authorized distributor/reseller to Customer and continuing for a period of 12 months or 16 months from the date of manufacture (whichever is earlier), the Hardware will be free from defects in material and workmanship under normal use. This limited warranty extends only to the original user of the Product. Customer's sole and exclusive remedy and the entire liability of smartBridges and its suppliers under this limited warranty will be, at smartBridges' option, shipment of a replacement within the warranty period or a refund of the purchase price if the Hardware is returned to the authorized distributor/reseller supplying it to Customer, freight and insurance prepaid. The Customer is to contact their authorized distributor/reseller for all such matters and proof of purchase might be required. smartBridges replacement parts used in Hardware replacement may be new or equivalent to new. smartBridges' obligations hereunder are conditioned upon the return of affected Hardware in accordance with smartBridges' or its service center's then-current Return Merchandise Authorization (RMA) procedures. This warranty does not cover accidents, misuse, neglect, unauthorized product modification, or acts of nature.

Software

smartBridges warrants that commencing from the date of purchase from a smartBridges authorized distributor/reseller to Customer and continuing for a period of 12 months or 16 months from the date of manufacture (whichever is earlier),

[a] the media on which the Software is furnished will be free of defects in materials and workmanship under normal use; and

[b] the Software substantially conforms to its published specifications.

This limited warranty extends only to the original user of the Software. Except for the foregoing, the Software is provided AS IS. This limited warranty extends only to the Customer who is the original licensee. Customer's sole and exclusive remedy and the entire liability of smartBridges and its suppliers and licensors under this limited warranty will be, at smartBridges' option, repair, replacement, or refund of the Software if reported (or, upon request, returned) to smartBridges or the authorized distributor/reseller supplying the Software to Customer. The Customer is to contact their authorized distributor/reseller for

all such matters and proof of purchase might be required. In no event does smartBridges warrant that the Software is error free or that Customer will be able to operate the Software without problems or interruptions. In addition, due to the continual development of new techniques for intruding upon and attacking networks, smartBridges does not warrant that the Software or any equipment, system or network on which the Software is used will be free of vulnerability to intrusion or attack.

Restrictions

This warranty does not apply if the Software, Product or any other equipment upon which the Software is authorized to be used (a) has been altered, except by smartBridges or its authorized representative, (b) has not been installed, operated, repaired, or maintained in accordance with instructions supplied by smartBridges, or (c) has been subjected to abnormal physical or electrical stress, misuse, negligence, or accident.

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