



VistaMax OBR5000B Base Station Transceiver

INSTALLATION AND OPERATION GUIDE



Document: **obr5000b_ml_r01_sd**
Approved: **D.W.**

Proprietary to Vecima Networks Inc.

Copyright © 2007 Vecima Networks Inc. All rights reserved.

No part of this publication may be reproduced in any form or by any means used to make any derivative work (such as translation, transformation or adaptation) without written permission from Vecima Networks Inc.

Vecima Networks Inc. reserves the right to revise this publication and to make changes in content from time to time without obligation on the part of Vecima Networks Inc. to provide notification of such revision or change.

Vecima Networks Inc. provides this guide without warranty of any kind, either implied or expressed, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Vecima Networks Inc. may make improvements or changes in the product(s) described in this manual at any time.

Specifications subject to change without notice - Printed in Canada

Contents

- Preface..... i
 - About this Document..... i
 - Safety and Regulatory Notices..... ii
 - Warnings and Advisories..... iii
 - Getting Support..... iv
 - Finding Related Documentation..... iv
- 1.0 Introduction..... 1-1
 - 1.1 Product Overview..... 1-1
 - 1.2 OBR5000B Features and Benefits..... 1-1
 - 1.3 Specifications..... 1-2
- 2.0 Installation..... 2-1
 - 2.1 Unpacking the Unit..... 2-1
 - 2.2 Mounting the OBR5000B..... 2-1
 - 2.3 Attaching the External Antenna..... 2-7
 - 2.3.1 Water Proof the Connection..... 2-8
 - 2.4 Installing the Grounding Apparatus..... 2-9
 - 2.4.1 Lightning Protection..... 2-9
 - 2.4.2 Power Surge Protection..... 2-13
 - 2.4.3 Grounding the Base Station..... 2-15
- 3.0 Getting Started with OBR5000B..... 3-1
 - 3.1 Before You Begin..... 3-1
 - 3.2 Overview of Configuration..... 3-2
 - 3.3 Using the Web Based Interface..... 3-2
 - 3.4 Configuring the Network..... 3-4
 - 3.5 Configuring the Radio..... 3-7
 - 3.6 Establishing a Link..... 3-8
 - 3.7 Other Administrative Tasks..... 3-9
 - 3.7.1 Upgrading the Base Station..... 3-9
 - 3.7.2 Adding a Virtual IP Address..... 3-10
 - 3.7.3 Rebooting the system..... 3-10
 - 3.7.5 Resetting Configuration..... 3-11
 - 3.7.6 Checking Base Station Logs..... 3-11
 - 3.7.8 Setting Service Flow Information..... 3-12
 - 3.7.9 SNMP Configuration..... 3-17
 - 3.7.10 Subscriber Station Modulation Table..... 3-17

3.7.11 Checking Base Station Status	3-17
3.7.12 SS Table	3-18
3.7.13 PKM AUTH Table	3-18
3.7.14 PKM TEK Table	3-18
Warranty and Service Policies	A-1

Preface

About this Document



NOTE

The information contained in this manual is subject to change without notice. The reader should consult the Vecima website for updates.

Purpose

The OBR5000B Installation and Operation Guide describes OBR5000B and provides instructions for installing and configuring the system. It is intended for system administrators and installation technicians who are familiar with broadband cable equipment and concepts.

This manual describes an OBR5000B using the following frequencies:

- 5725 to 5825 MHz (FCC version)
- 5725 to 5875 MHz (CE Version)
- 5725 to 5825 MHz (IC Version)

Organization of the OBR5000B Installation and Operation Guide

Chapter 1— Gives an overview of the OBR5000B including the specifications and describes the features and benefits of the system.

Chapter 2— Lists the included parts and provides instructions for installing and connecting the OBR5000B.

Chapter 3— Gives an overview of the web-based interface and provides instructions for basic configuration tasks.

Document Conventions

This manual uses the following special formats to emphasize key information. Be aware of all warnings and cautions before you begin to install the OBR5000B.



WARNING

Whenever you see this icon and heading, the associated text addresses or discusses a critical safety or regulatory issue.



CAUTION

Whenever you see this icon and heading, the associated text discusses an issue, which, if not followed, could result in damage to, or improper use of, the equipment or software.



NOTE

Whenever you see this icon and heading, the associated text provides some important information not directly related to the topic.



TIP

Whenever you see this icon and heading, the associated text provides a tip for facilitating the installation, testing, or operation of the equipment or software.

Safety and Regulatory Notices

FCC Compliance

This equipment has been tested and found to comply with the limits for Class B 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 and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause 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 receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication.



CAUTION

Any changes or modification to this product not expressly approved by Vecima Networks Inc. could void the user's authority to operate the equipment.



CAUTION

The Vecima OBR5000B base station unit must be installed by a trained professional, value added reseller, or systems integrator who is familiar with RF cell planning issues and the regulatory limits defined by Industry Canada for RF exposure.



CAUTION

To comply with RF exposure requirements, this equipment must be installed in such a way as to provide a minimum separation distance of 1.5m from the transmitting antenna to persons nearby.

Industry Canada Compliance

Operation of this device is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF fields in excess of Health Canada's limits for the general population; consult Safety Code 6, obtainable from [Health Canada's Website](#).

For safety reasons, people should not work in a situation where RF exposure limits could be exceeded. To prevent this situation, the users should consider the following rules:

- Install the antenna so that there is a minimum of 23 cm (9.06 in) of distance between the antenna and people.
- Do not turn on power to the device while installing the antenna.
- Do not connect the antenna while the device is in operation.
- Do not collocate or operate the antenna used with the device in conjunction with any other antenna or transmitter.
- In order to ensure compliance with local regulations, the installer MUST enter the antenna gain at the time of installation.

Maximum Antenna Gain

The OBR5000B is a low-powered license-exempt radiocommunication device. Therefore, the maximum antenna gain permitted (for devices in the band 5725-5825 MHz) to comply with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate, as stated below:

- For the band 5725-5825 MHz, the maximum conducted output power shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever power is less. The power spectral density shall not exceed 17 dBm in any 1.0 MHz band. The maximum e.i.r.p. shall not exceed 4.0 W or $23 + 10 \log_{10} B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
- Fixed point-to-point systems for this band are permitted to have an e.i.r.p. greater than 4 W, provided that the higher e.i.r.p. is achieved by employing higher gain antennas, but not higher transmitter output powers. Point-to-multipoint systems, omni-directional applications and multiple co-located transmitters transmitting the same information are prohibited from exceeding 4 W e.i.r.p. However, remote stations of point-to-multipoint systems shall be permitted to operate at greater than 4 W e.i.r.p, under the same conditions as for point-to-point systems.

Warnings and Advisories



WARNING

When used in Norway, Finland, or Sweden, this equipment must be installed in a restricted access location.

Wenn sie in Norwegen, in Finnland oder in Schweden verwendet wird, muss diese Ausrüstung in eine eingeschränkte Zugangsposition angebracht werden.



CAUTION

Before installing and operating this equipment, read all safety, installation and operating sections. Retain this manual for future reference. Follow all instructions - failure to do so may result in damage to the unit or severe personal injury.

Avant d'installer ou de faire fonctionner cet équipement, lire toutes les sections sur la sécurité, l'installation et l'utilisation. Conserver ce manuel pour consultation future. Suivre toutes les instructions, sinon vous risquez d'endommager l'appareil ou de vous blesser gravement.

Lesen Sie bitte vor Installation und Bedienung dieses Gerätes alle Abschnitte zur Sicherheit, Installation und Bedienung. Heben Sie die Bedienungsanleitung zum späteren Nachschlagen auf.



CAUTION

Servicing should not be attempted by the user. There are no user serviceable parts inside. Refer all servicing to factory qualified personnel.

L'utilisateur ne doit pas essayer de faire l'entretien. Il n'y a pas de pièces utilisables par l'utilisateur à l'intérieur. S'adresser au personnel compétent de l'usine pour tout entretien

Wartungsarbeiten sollten nicht durch den Nutzer erfolgen. Im Gerät gibt es keine Teile, die vom Nutzer gewartet werden können. Alle Wartungsarbeiten müssen von betrieblich qualifiziertem Personal durchgeführt werden.



CAUTION

To comply with RF exposure requirements, the integrated antenna or any external antenna which is connected to an OBR5000B requires a minimum distance of 1.5 meters between it and all persons.

Vorsicht: Gemäß den RF-Anforderungen muss der Abstand zwischen der integrierten Antenne oder einer externen Antenne, die an eine OBR5000B angeschlossen ist, und Personen mindestens 1,5 Meter betragen.

Getting Support

Finding Related Documentation

The user manuals for the VistaMAX series of products may be downloaded from our FTP site as follows:

Step 1 Using a web browser, visit <https://postoffice.vecima.com>

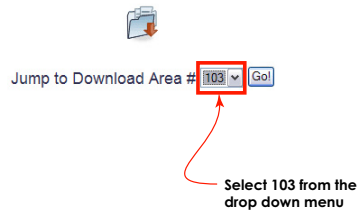
NOTE

If your Web certificate is invalid or expired, you might need to add an exemption to the certificate or upgrade your Java Runtime Environment (JRE) software.

Step 2 Select 103 from the 'Jump to Download Area' drop menu and click on 'Go!'



Private Download Area



Step 3 Enter the Username as **vistamax** and the Password as **vistamax**

Index of /private_dl/103

Name	Last modified	Size	Description
Parent Directory	-	-	-
Document_full_names..>	18-Jun-2008 11:08	456	
nms8000_ml_01_sd.pdf	16-Feb-2007 13:14	13M	
obr3500_ml_02_sd.pdf	27-Jun-2008 14:58	8.0M	
obr3650_ml_01_sd.pdf	27-Jun-2008 14:30	8.6M	
opc3500_ml_01_sd.pdf	29-Jun-2007 09:28	9.0M	
osr3500_ml_02_sd.pdf	06-Jul-2007 16:11	7.0M	
wes800_ml_04_sd.pdf	17-Dec-2007 11:47	2.5M	

Apache/2.0.54 (Ubuntu) mod_python/3.1.3 Python/2.4.2 PHP/4.4.0-3ubuntu2 proxy_html/2.4 mod_ssl/2.0.54 OpenSSL/0.9.7g Server at postoffice Port 443

Step 4 Download the required file(s)

Technical Support:

For technical support, contact the Wireless Engineering Application Support (WAES) group:

- Online [VistaMAX® E-Ticket Technical Support](#)
- Email: wimax.support@vecima.com
- Tel: +1 306 955 7075, press "72" for VistaMAX® product support

Warranty Support

- Email: support@vecima.com
- Tel: +1 306 955 7075, press "2" for technical support

1.0 Introduction

1.1 Product Overview

The VistaMAX OBR5000B is a WiMAX / IEEE 802.16-2004 base station that offers a single box solution for WiMAX applications in the 5725 to 5875 MHz band. The OBR5000B is designed for outdoor use and is contained in a weatherproof sealed housing.

The OBR5000B offers a direct bridged 100BaseT Ethernet connection to the base station network. The only equipment required inside the base station premises is an Ethernet switch with Power over Ethernet (PoE) capability, such as provided by Vecima Networks VPN100014+ or the WES800, to supply power and provide Ethernet connectivity.

Optional Antennas

Vecima recommends the following external antennas to use with the OBR5000B

Antenna Type	Specifications	Vecima Recommendation
60	18 dBi gain	Radio Waves Sector Antenna
90	17 dBi gain Vertical or horizontal polarization	Radio Waves Sector Antennas: SEC-5V-90-17 SEC-5H-90-17
Omni	12 dBi gain Vertical polarization	BOBOTO TQJ-5800-12



CAUTION

The installer must ensure that the transmission power output is below the mandated FCC limit. That is, the transmission power minus the cable loss and antenna gain must result in an equivalent isotropically radiated power (EIRP) below 4W or 36 dBm. When using Vecima or Vecima recommended antennas, the transmit power output will be below this limit.

1.2 OBR5000B Features and Benefits

- 802.16-2004 OFDM Compliant PHY & MAC – standards based radio.
- Time Division Duplexing (TDD) – maximum spectrum efficiency and lowest cost
- Fast adaptive modulation – convenient single cable connection
- Integrated GPS timing – automatic base station synchronization
- Integrated multi-strike lightning protection – reduced downtime and maintenance costs
- Several management/monitoring interface – flexible operation and control
 - SNMP (WiMAX forum MIBs and Vecima extensions)
 - Built-in HTTPS web server
 - Syslog

1.3 Specifications

Item	Specification
RF Frequency	5725 to 5825 MHz (FCC version) 5725 to 5875 MHz (CE Version) 5725 to 5825 MHz (IC Version)
RF Frequency Step Size	250 kHz
Duplexing Mode	TDD
Channel Bandwidth	10 MHz
Modulation Types	IEEE 802.16-2004, OFDM256, burst by burst adaptive BPSK-1/2 QPSK-1/2, QPSK-3/4 16QAM-1/2, 16QAM-3/4 64QAM-2/3, 64QAM-3/4
Maximum Rated Power	FCC compliant equipment: <ul style="list-style-type: none"> - +36 dBm EIRP for 60° antenna - +35 dBm EIRP for 90° antenna - +30 dBm EIRP for omnidirectional antenna Industry Canada compliant equipment: <ul style="list-style-type: none"> - +36 dBm EIRP for 60° antenna - +35 dBm EIRP for 90° antenna - +30 dBm EIRP for omnidirectional antenna European Telecommunications Standards Institute (ETSI) compliant equipment: <ul style="list-style-type: none"> - levels are country specific
Output Power	+18 dBm
Output Power Control Range	10 dB
Spectral Mask Compliance	Industry Canada RSS-192 ETSI EN 301 021 v1.6.1
Minimum Sensitivity	-88.5 dBm for 10 MHz channel
Antenna Options	18 dBi, 60° 17 dBi, 90° 12 dBi, omnidirectional

2.0 Installation



CAUTION

Install the OBR5000B in accordance with all local codes for installing outdoor communication equipment.

2.1 Unpacking the Unit

Carefully remove the equipment from the packing material and set it on a solid surface, such as a table or desk. If it appears damaged in any way, notify the carrier and keep all packing materials for inspection by the carrier's agent.

2.2 Mounting the OBR5000B

The following hardware is included in the box for mounting the OBR5000B to the pole:

- Qty. 1 x Chassis Bracket
- Qty. 1 x Elevation Adjustment Bracket
- Qty. 1 x Pole Catch Bracket
- Qty. 4 x 6 inch Carriage Bolts
- Qty. 8 x Nuts
- Qty. 4 x Split Lock Washer
- Qty. 4 x Bolts
- Qty. 4 x Flat Washer
- Qty. 4 x Nylon Washer

The Chassis Bracket and Elevation Adjustment Bracket come pre-installed on the OBR5000B chassis.

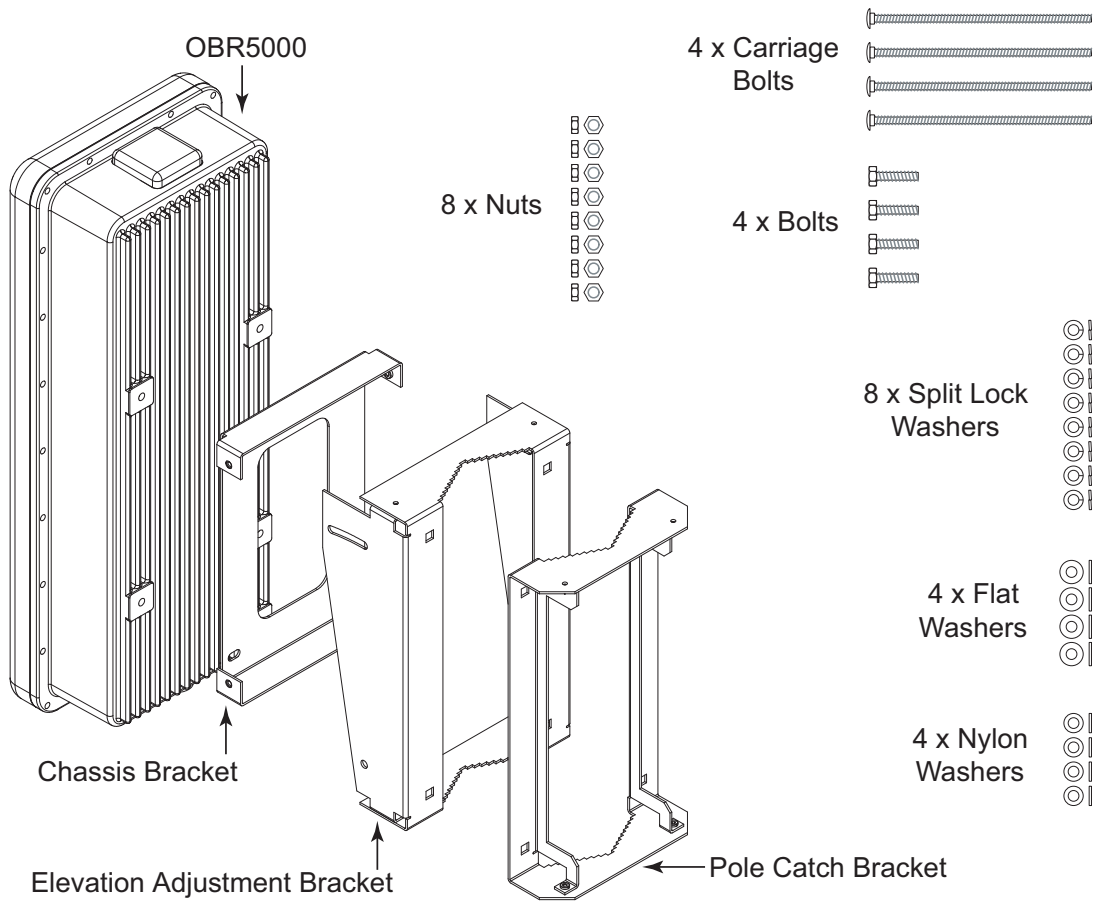
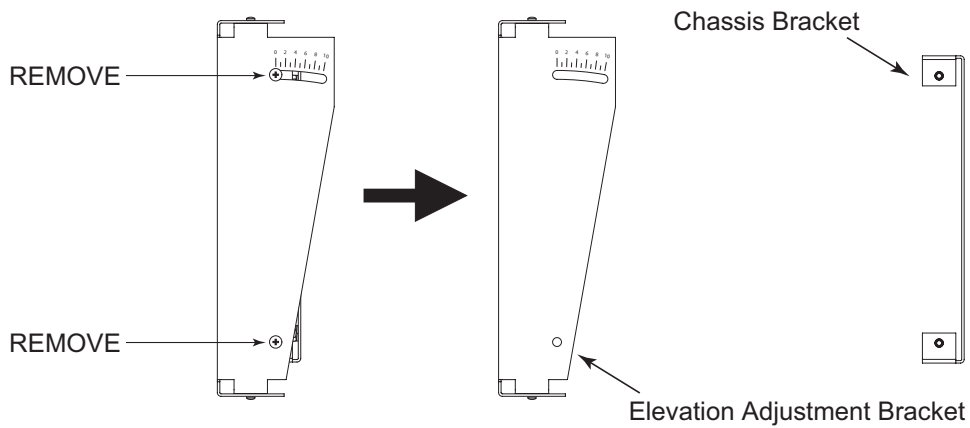


Figure 2-1 OBR5000B Pole Mounting Hardware

Figure 2-2 and Figure 2-3 describe the steps necessary to prepare the OBR5000B for pole mounting.

- 1 Remove the Elevation Adjustment Bracket from the Chassis Bracket by removing the four screws (2 on each side).



- 2 Attach the Chassis Bracket to the OBR5000B using four bolts and assorted washers as shown below. Take care to place the nylon washers between the Chassis Bracket and the OBR5000B to prevent damage to the paint.

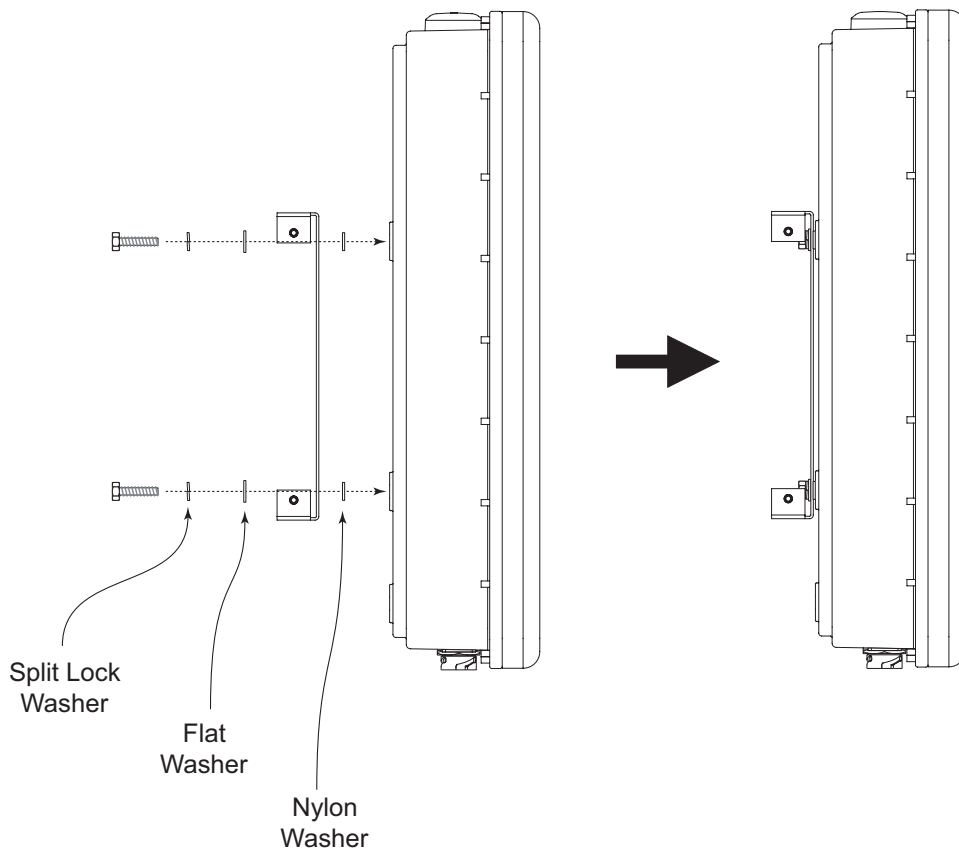
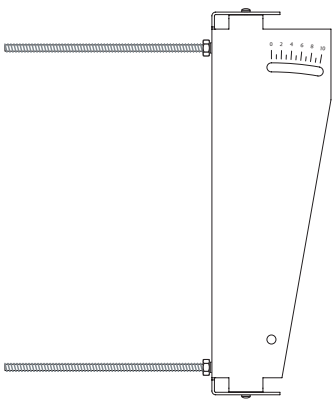
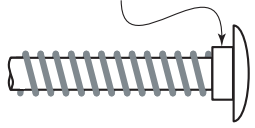


Figure 2-2 Preparing the OBR5000B for Pole Mounting (Part 1)

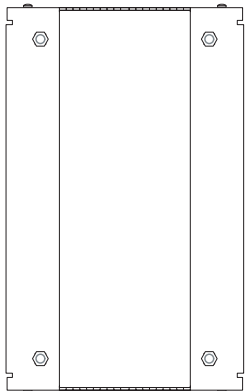
3 Insert the four carriage bolts into the four square holes in the Elevation Adjustment bracket as shown

To prevent the square collar near the head of the carriage bolts from slipping back through the square holes, fasten a nut onto each carriage bolt as shown -- **NOTE:** do not use any washers; the nuts will not fasten flush to the surface. The nuts will prevent the square collars on the carriage bolts from slipping out of the notches when fastened down.

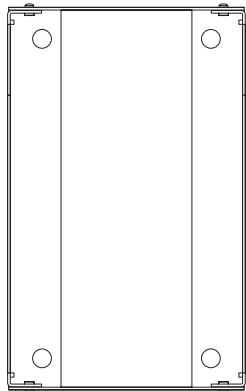
Square collar on carriage bolt



Elevation Adjustment bracket with Carriage bolts installed (viewed from the side)



Elevation Adjustment bracket with Carriage bolts installed (viewed from the "face" that will mount against the pole)



Elevation Adjustment bracket with Carriage bolts installed (viewed from the "face" that will mount towards the OBR5000B)

4 After inserting the carriage bolt into the Elevation Adjustment bracket, re-attach the bracket to the OBR5000B by replacing the four screws (2 on each side) as shown.

The OBR5000B is now ready to be mounted to a pole.

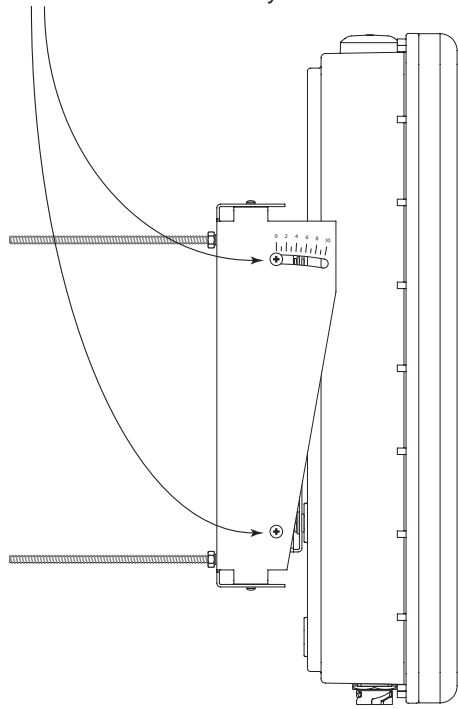
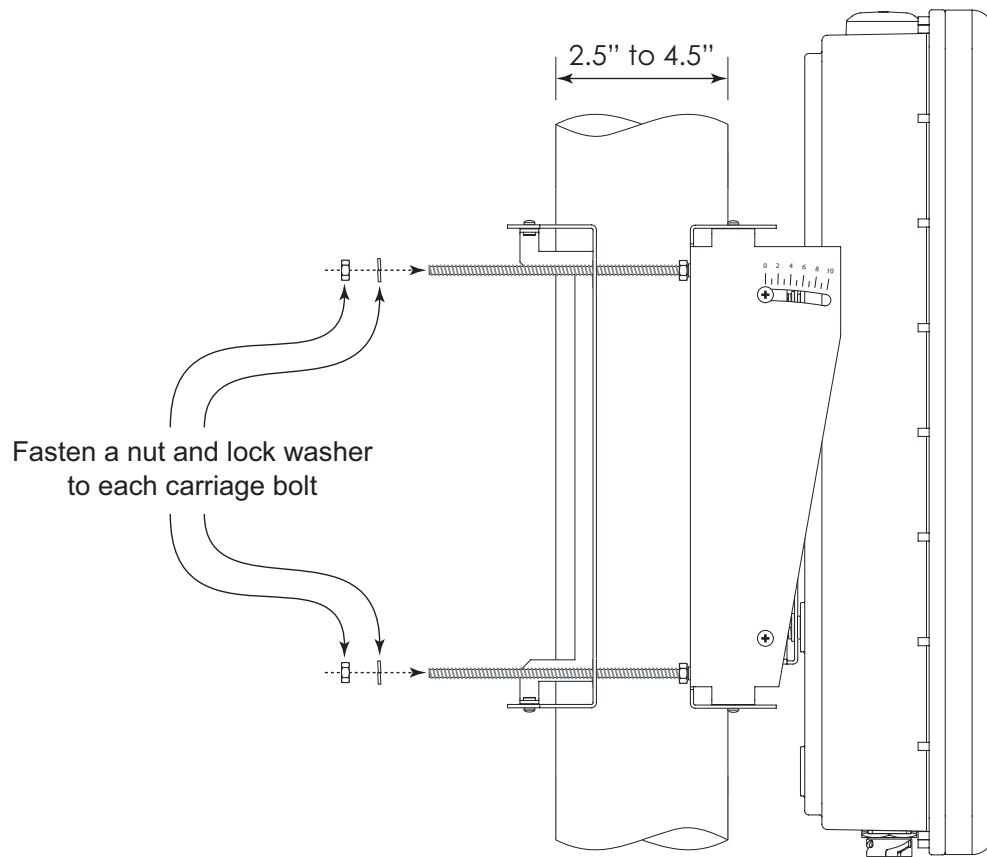
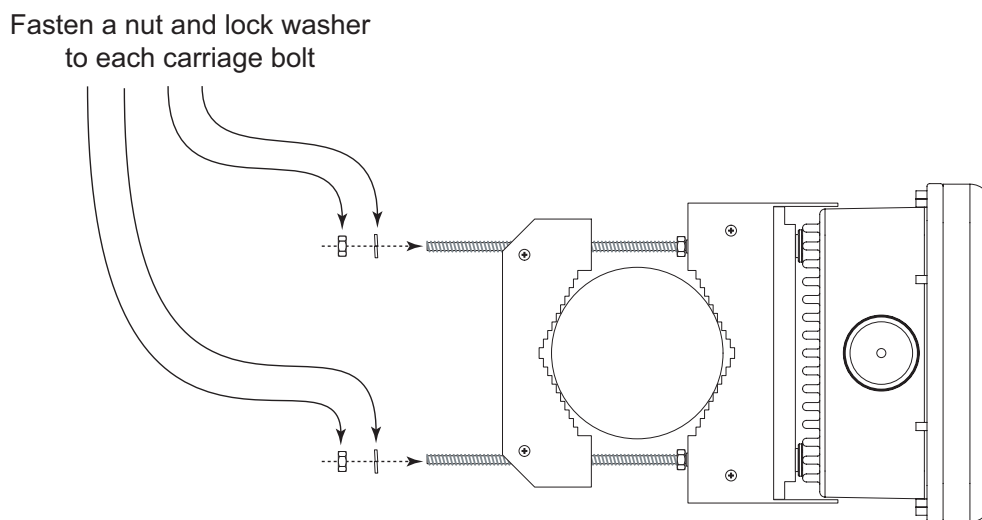


Figure 2-3 Preparing the OBR5000B for Pole Mounting (Part 2)

After preparing the OBR5000B for pole mounting, hold the OBR5000B against the pole at the desired height then place the Pole Catch Bracket onto the opposite side as shown in Figure 2-4. Fasten a lock washer and nut onto all four carriage bolts and tighten until the OBR5000B is suitably secured in place.



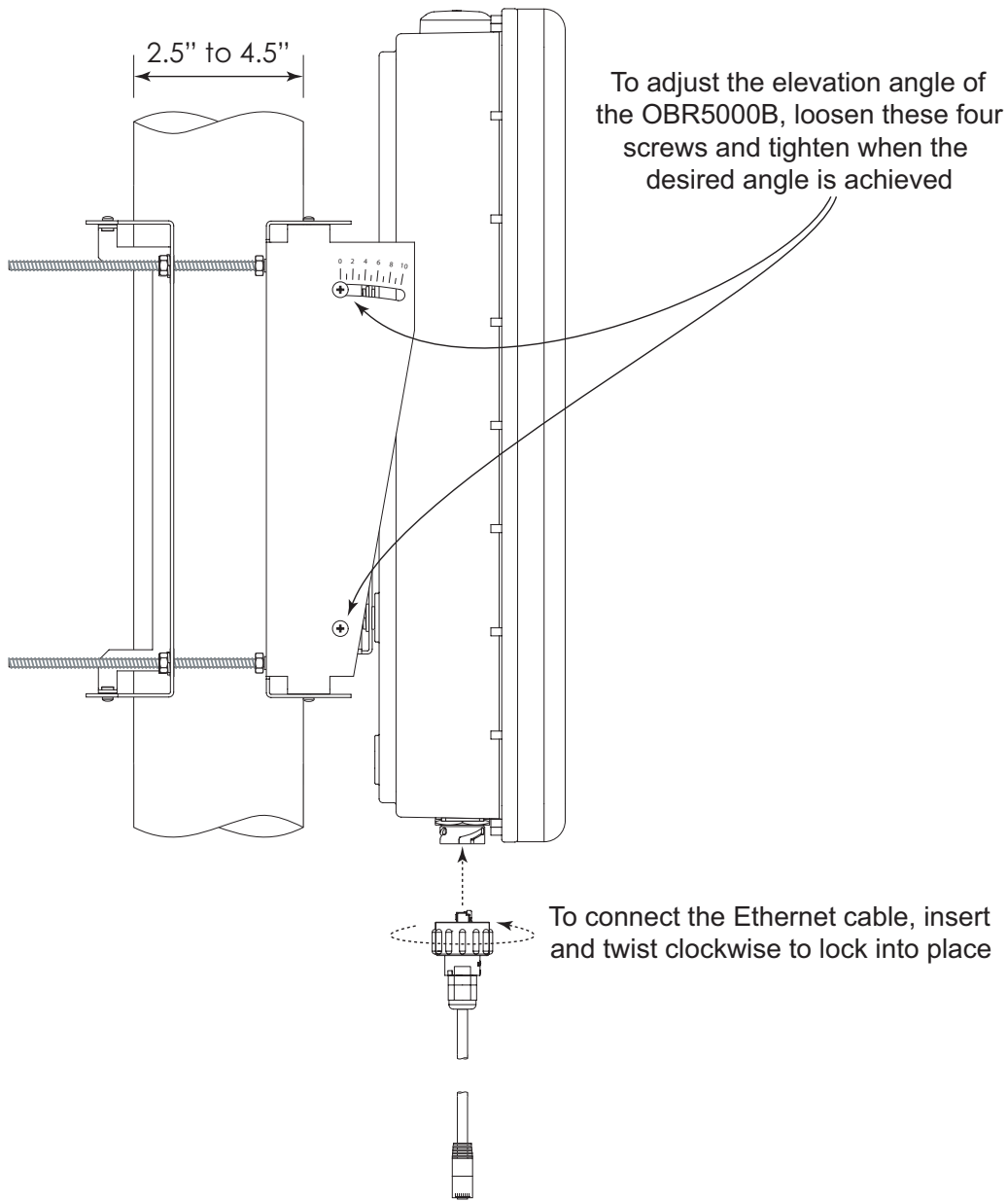
Pole Mounting - Side View



Pole Mounting - Top View

Figure 2-4 Attaching the OBR5000B to the Pole

Once the OBR5000B is mounted to the pole, the elevation angle may be adjusted as necessary and the unit may be connected to the network via a CAT5E cable with a standard RJ45 connector on one end and a special Molex® backshell with RJ45 connector on the other end.



Connect the other end of the Ethernet cable into the network via surge suppressor

Figure 2-5 Connecting the OBR5000B to the Network

2.3 Attaching the External Antenna

The OBR5000B is equipped with two type N connectors (female) at the bottom of the housing where a user can attach one or two optional external antennas. Only one antenna can be active at a time and the user sets the active antenna through the web-based interface (see [3.5 Configuring the Radio](#), on page 7). The active antenna can have either horizontal or vertical polarization.

Properly terminate unused ports by inserting the Vecima N type terminator that was included with the original OBR5000 packaging (part number JMNTERM-03).

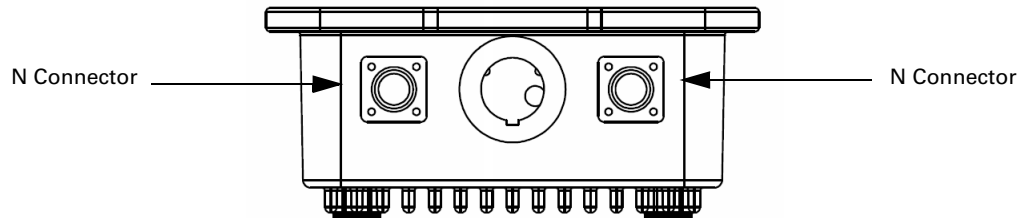


Figure 2-6 N Connectors for External Antennas

Attach one of the following types of antennas:

- 60° sectorized group for both horizontal and vertical polarization; one antenna for each port
- 90° sectorized group for both vertical and horizontal polarization; one antenna for each port
- Single antenna with omnidirectional polarization



CAUTION

When using the omnidirectional antenna, the user is responsible to properly terminate and weatherproof the unused port.



NOTE

Vecima does not provide an external antenna. Consult with the Application Engineering Support at Vecima Networks to decide which antenna to use.

2.3.1 Water Proof the Connection

Wrapping the antenna connection with sealing tape keeps the connection tight and protects against moisture.

To water proof the connection follow these steps:

- Step 1** Use a section of rubber sealing tape. Starting at the OBR5000B end, stretch the tape and wrap it around the connector as close as possible to the body of the OBR5000B. Overlap the tape by approximately one-half of its width so that it can form a seal with itself. Extend the wrapping to approximately one-inch past the end of the connector.



Figure 2-7 Apply Rubber Sealing Tape

- Step 2** Cover the sealing tape with electrical tape. Start approximately one inch further down the cable, and stretch the tape, overlapping by one-half. Wrap to the OBR5000B end, then without breaking the tape, wrap back down to the cable end.



Figure 2-8 Water Proofed Connection

2.3.1 Wasserschutz und Zugentlastung

Dies bietet Schutz vor Feuchtigkeit und stellt sicher, dass die Anschlüsse dicht sind.

Um die wasserdicht zu machen, führen Sie folgende Schritte aus:

- Step 1** Verwenden Sie ein langes Dichtungsgummiband. Wickeln Sie das Band so nahe an der OBR5000B wie möglich straff um den Anschluss. Überlappen Sie das Band mit seiner halben Breite, um die Dichtung sicherzustellen. Wickeln Sie das Band bis ca. 2,5 cm nach dem Anschlussende.



Abbildung 2-9: Anbringen des Dichtungsgummibands

- Step 2** Bedecken Sie das Dichtungsband mit Isolierband. Beginnen Sie ca. 2,5 cm weiter unten am Kabel und überlappen Sie das Band mit seiner halben Breite. Wickeln Sie das Band gegen die OBR5000B und wieder zurück zum Kabelende, ohne dieses abzureißen.

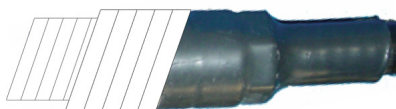


Abbildung 2-10: Wasserdichter Anschluss Isolierbandabdeckung

2.4 Installing the Grounding Apparatus

Install the grounding apparatus to protect the OBR5000B from lightning strikes and power surges. Ground the base station to the earth ground to protect from lightning strikes. Use the surge suppressor to shunt to ground any over-voltage [>60 V] transients that may be induced on the CAT5E cablefeed via lightning or other high voltages.

2.4 Installieren der Erdungsvorrichtung

Installieren Sie die Erdungsvorrichtung, um die OBR5000B gegen Blitzschlag und Stromstöße zu schützen. Erden Sie die Basisstation für den Schutz gegen Blitzschlag. Verwenden Sie den Überspannungsschutz, um Überspannungen [>60 V] zu überbrücken, die in der CAT5E-Zuleitung durch Blitzschläge oder andere Hochspannungen verursacht werden können.

2.4.1 Lightning Protection

The OBR5000B has a built in lightning surge suppression mechanism to protect it against damage from lightning strikes.

Assembling the OBR5000B Base Station Grounding

Attach the earth ground to the grounding lug located on the base station.

Provided parts:

- 1 x 5/8 inch washer
- 1 x 1/4 inch grounding lug

Required parts:

- 1 x #6 AWG grounding wire assembly of sufficient length to connect the OBR to the tower's earth ground bus
- 1 Size 11 Wrench (11mm or 7/16 inch)

To assemble and attach the ground lug:

1. Locate the grounding point on the OBR5000B. This is at the bottom of the OBR, to the right of the Vecima sticker.
2. On the grounding lug, assemble the grounding combination in the following order:
Lug > Washer > Grounding Assembly > Washer.
3. Screw the combination into the OBR at the grounding point.
4. Attach the assembly to the lightning grid or the antenna.

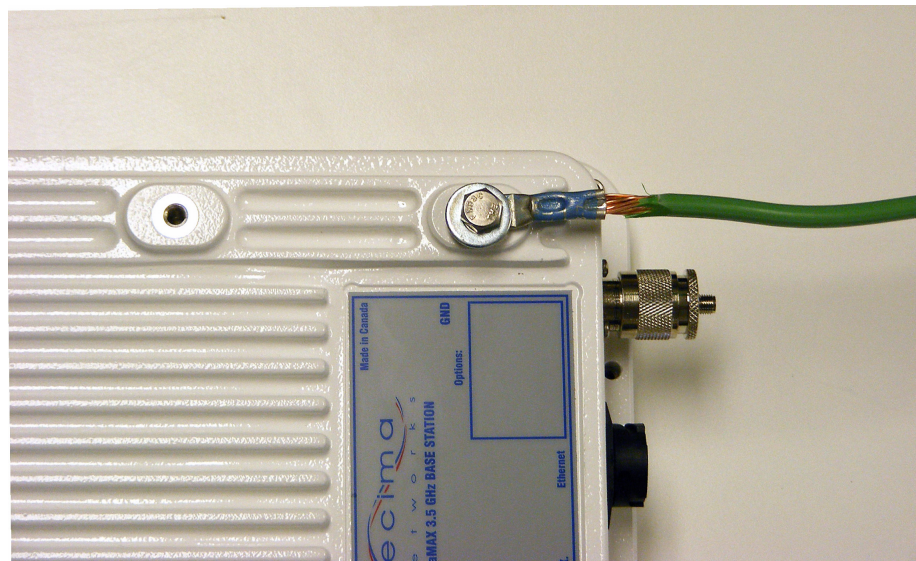


Figure 2-11 Assembled Ground Lug

2.4.1 Blitzschutz

In der OBR5000B ist ein Blitzschutz integriert, um das Gerät vor Beschädigung durch Blitzschläge zu schützen.

Montieren der OBR5000B-Basisstationserdung

Bringen Sie die Erdungsvorrichtung am Erdungsanschluss an der Basisstation an.

Mitgelieferte Teile:

- 1 x 5/8 Zoll Beilagscheibe
- 1 x 1/4 Zoll Erdungsanschluss

Erforderliche Teile:

- 1 x #6 AWG Erdungskabel zum Anschließen der OBR an die durchlaufende Erdleitung des Towers
- 1 Schraubenschlüssel (11 mm oder 7/16 Zoll)

So montieren Sie den Erdungsanschluss:

1. Der Erdungspunkt befindet sich an der Unterseite der OBR5000B rechts neben dem Vecima-Aufkleber.
2. Bringen Sie die Erdungsvorrichtung in folgender Reihenfolge am Erdungsanschluss an:
Anschlussstück > Beilagscheibe > Erdungsvorrichtung > Beilagscheibe.
3. Schrauben Sie die Kombination am Erdungspunkt der OBR an.
4. Verbinden Sie die Vorrichtung am Blitzgitter oder der Antenne.

Grounding the Base Station

Vecima requires that the OBR5000B be connected to the tower grounding system as shown in [Figure 2-12](#).

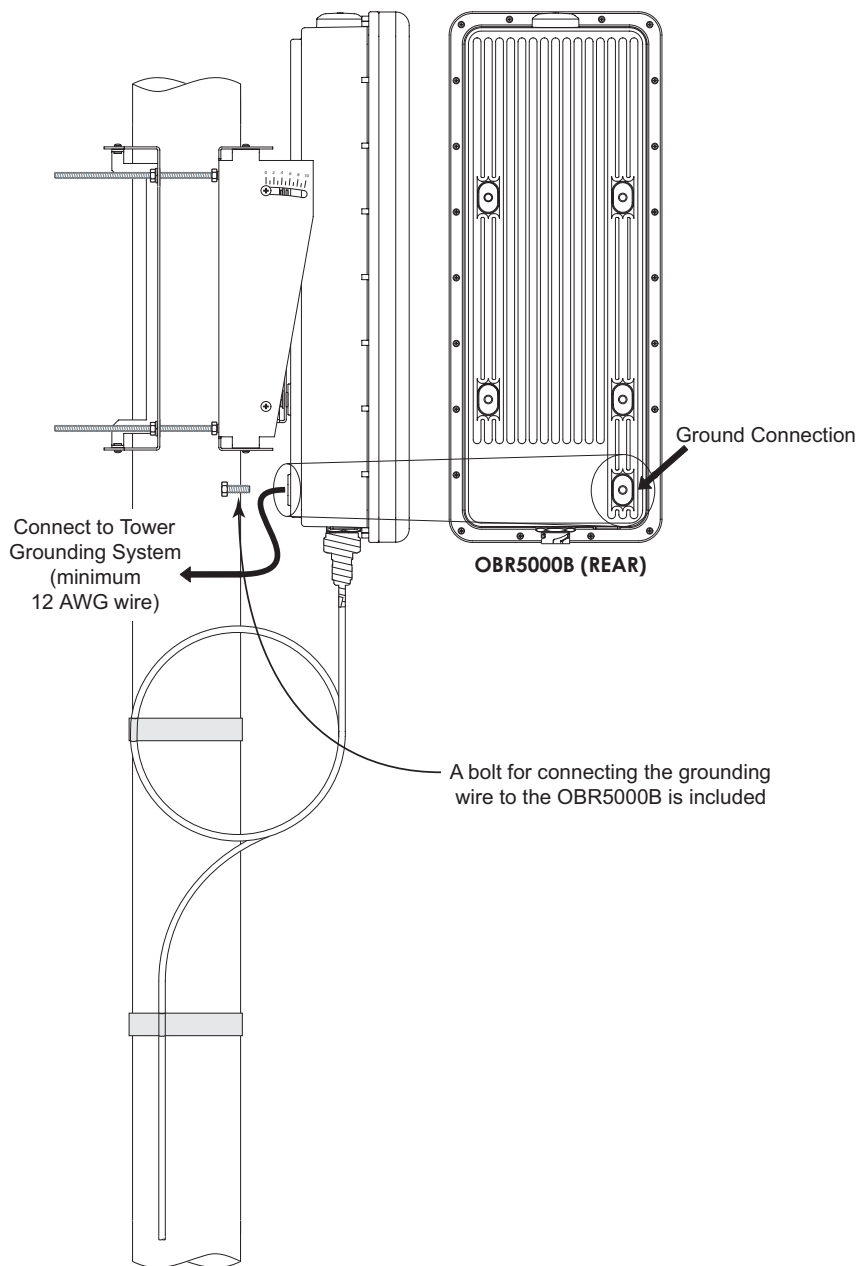


Figure 2-12 Grounding the OBR5000B



CAUTION

Vecima Networks requires that the CAT5E cable to the OBR5000B is connected to a lightning surge protector at the entrance to the building, prior to connection to the WES800 Ethernet Switch as shown in [Figure 2-14](#).

Erden der Basisstation

Die OBR5000B muss am Towererdungssystem angeschlossen werden (siehe Abbildung 2.9)..

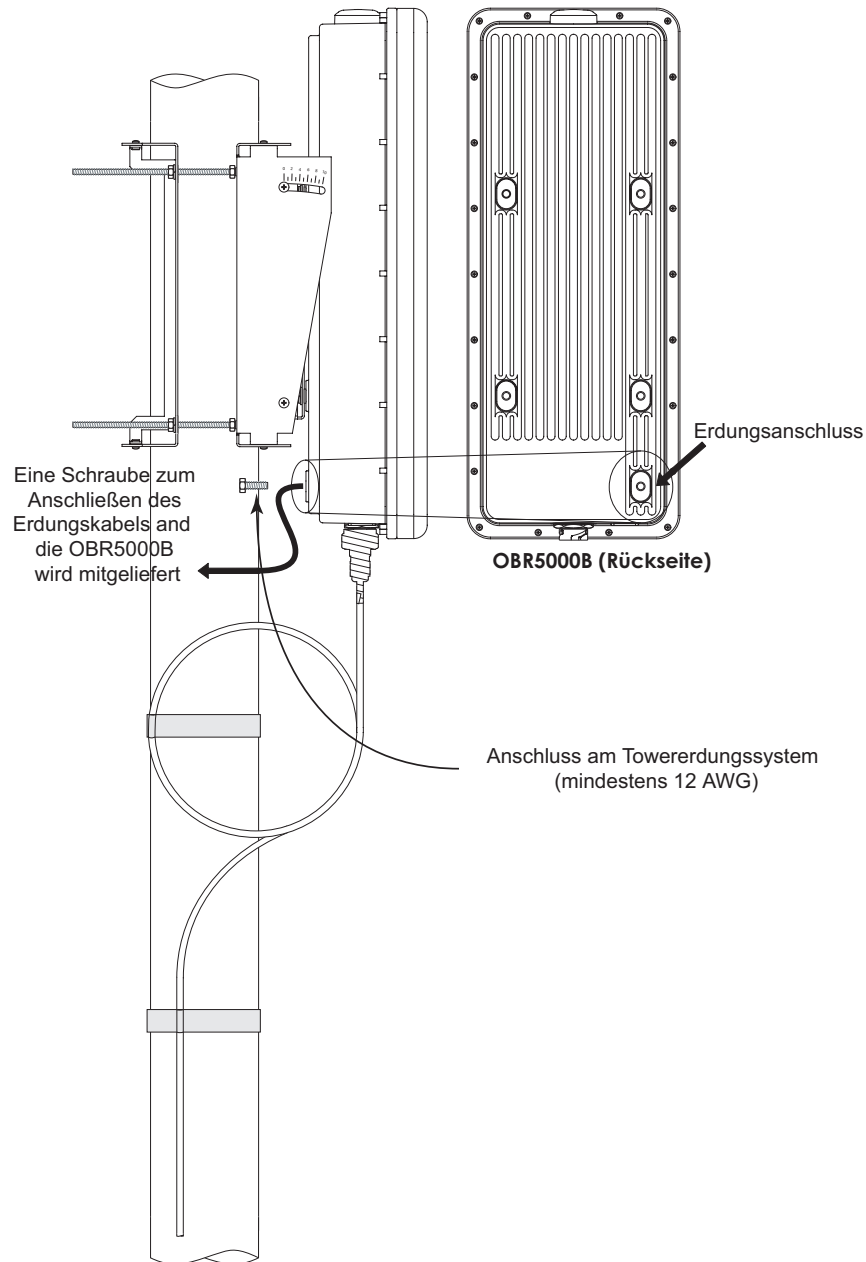


Figure 2-13 Abbildung 2.9: Erdung der OBR5000B



CAUTION

Vorsicht: Eine Anforderung von Vecima Networks besteht darin, dass CAT5E Kabel, die WES800 mit Geräten, die sich im Freien befinden, verbinden an einen Überspannungsschutz angeschlossen werden. Der Anschluss muss am Gebäudeeingang und vor Anschluss an den Transceiver.

2.4.2 Power Surge Protection

Use the surge suppressor to protect your equipment and secure your data from power surges.

To connect the Cablefeed Shield to the Surge Suppressor Ground Lug

1. Remove the suppressor unit cover.
2. Thread the Ethernet cable through the right side opening to the suppressor.
3. Measure five (5) inches from the end of the cable that you threaded through the right side opening.
4. Lightly score the cable at the five inch mark.
5. Carefully slice the edge of the insulation.
Note: Do NOT cut the metal shield that surrounds the wires.
6. Slowly snip or slice the insulation down to the five (5) inch scoring.
7. Remove the insulation from the cable.
8. Gently twist the metal shield to form metal ground strip.
9. Make a straight-through cable with the wires.
Remember: be careful not to damage the metal ground strip.
10. Undo the grounding bolt on the right side of the suppressor.
11. Wrap the grounding strip onto the grounding bolt.
12. Screw the grounding bolt back into the side of the suppressor.
13. Thread the cable that connects to the Power over Ethernet through the left opening on the suppressor.
14. Strip the wires and make it a straight-through cable.
15. Connect the cables to their perspective ports.
16. Replace the cover of the suppressor.
17. Finish connecting the network. See “2.4.3 Grounding the Base Station” on page 2-15

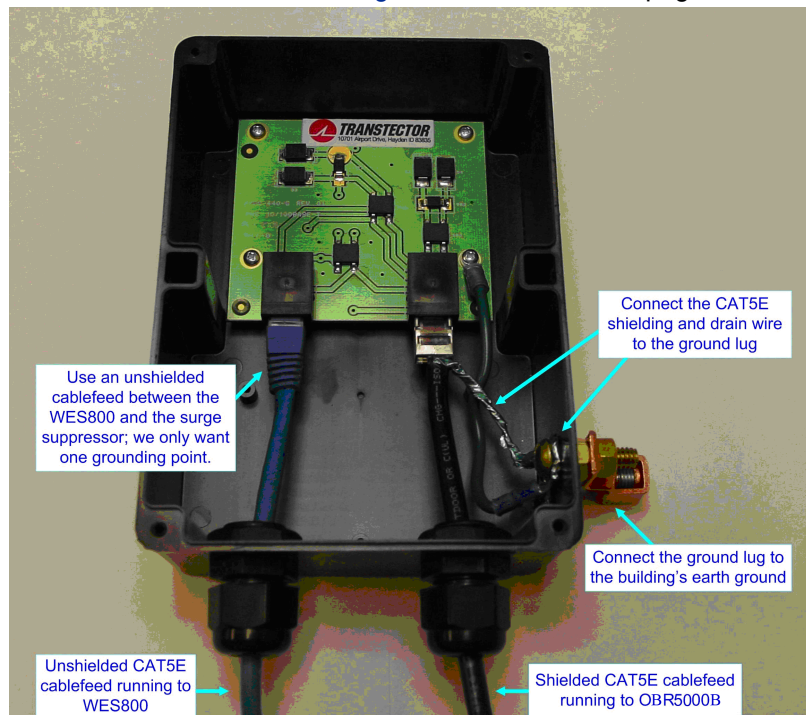


Figure 2-14 Assembled Surge Suppressor