

Instructions for Installation Hardware KIT P/N 825905 SU-A Units



Doc No. IS0905

INTRODUCTION

This document outlines the installation procedures for BreezeACCESS SU-A units. The procedures are relatively simple, but do require some skill in construction-related tasks. Be sure to follow all warnings and cautions; they are provided for your safety. An Installation Kit is required which includes the hardware required for most installations. You should be familiar with construction related tasks, as the following installation instructions do not contain step-by-step procedures for mounting the subscriber antenna to a surface and drilling holes in the building for cable.

BEFORE YOU START

Because you will be mounting the antenna, and running coax cable; you should be somewhat familiar with and able to safely perform the following procedures.

- You should be able to use a bubble level or plumb line to set both horizontal and vertical surfaces. This is especially critical for vertical surfaces.
- You should know how to drill holes in the mounting surface (wood, brick, cinder block, etc.).
- You should know how to run cables through your building and sealing the holes once the cable has been installed.

SAFETY INSTRUCTIONS

You should always follow these instructions to help ensure against injury to yourself and damage to the equipment.

- Read and follow all safety and operating instructions before you operate any Indoor Unit (IDU).
- Do not use accessories or attachments not recommended by Alvarion, as they may cause hazards and will void the warranty.
- Do not operate the Indoor Unit (IDU) in high-humidity areas, or expose it to water spray, mist or running water.
- Do not place the Indoor Unit (IDU) on an unstable cart, stand, bracket, or table. The Indoor Unit (IDU) may fall, causing serious personal injury and damage to the Indoor Unit (IDU).
- Do not stack the Indoor Unit (IDU) on top of or below other electronic devices.
- Operate the Indoor Unit (IDU) using only the type of power source indicated on the marking label. Unplug the Indoor Unit (IDU) power cord by gripping the power plug, not the cord.
- The Indoor Unit (IDU) is equipped with either a ground-type or a polarized plug. This plug will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact an electrician to replace the obsolete outlet. Do not defeat the safety purpose of the ground-type or polarized plug.
- Route power supply cords so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit. Do not overload wall outlets or extension cords, as this can result in a risk of fire or electrical shock.
- Make sure that the outdoor parts of the antenna system are grounded in accordance with local, state, federal, and *National Electrical Code (NEC)* requirements.
- Use an outlet that contains surge suppression and ground fault protection, or use a surge protection device. For added protection during a lightning storm, or when the Indoor Unit (IDU) is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the lines between the receiver and the antenna. This will provide some protection against damage caused by lightning or power line surges.
- Do not locate the antenna near overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing the antenna, take extreme care to avoid touching such power lines or circuits, as contact with them can be fatal.

Alvarion PROPRIETARY DATA

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- Do not attempt to service the Indoor Unit (IDU) yourself, as opening or removing covers may expose you to dangerous voltage, and will void the warranty. Refer all servicing to authorized service personnel.

PACKAGE CONTENTS (See Appendix A)

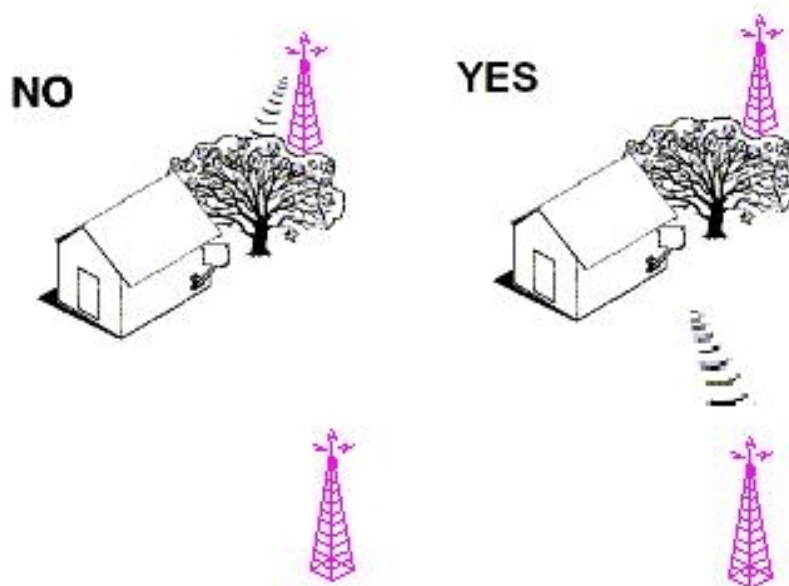
- 1 Antenna Mount Arm/mast
- 6 Mounting Screws for mast
- 4 Flat Washers
- 4 Lag Shield for concrete or brick mount
- 1 100ft #10 copper wire or 2x50ft ground wire
- 1 coax ground block
- 2 Mounting screws with anchors for coax ground block
- 1 Grounding Lug
- 2 Coax seal tar pack
- 1 Adjustable Ground strap (knuckle and strap)
- 1 10ft Ethernet 10BT cable
- 1 IDU IF cable 6m (20ft)
- 1 Installation instructions.

TOOLS NEEDED

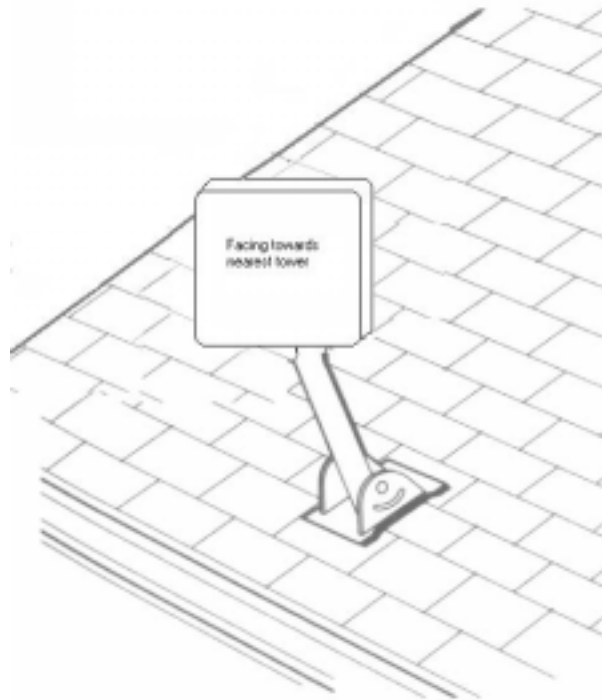
- 1 3/16" Flat Screwdriver
- 1 Bubble Level/Plumb Line
- 1 Electric Drill with 1/2 bit for Lag shield, 3/16 bit for Lag Screws, and 1/4 bit for ground block screw.
- 1 1/2" Wrench.
- 1 #2 Phillips Screw driver

FIND LINE OF SITE TO TOWER AND WHERE TO MOUNT ANTENNA

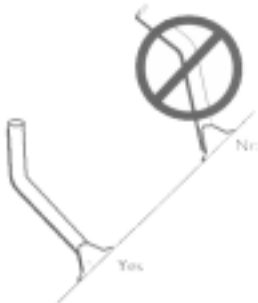
1. Identify a suitable place that has a direct line of site to tower and proper height for installing antenna and outdoor unit.
2. The location should be on the roof or side of the house with line-of-site or near line-of-site to the cell site.
3. If you do not have a clear line of site. Your site may not be suitable for installation.



Installing the Outdoor Unit (ODU) and Antenna using the Universal Mount



Ensure the universal mount is properly oriented as shown below.



Make sure the top part of the mast points straight up.



Make sure that the top of the mast will point straight up.

ALIGNING THE MAST

Before you secure the mounting foot to the location you have chosen, you need to use a bubble level or plumb line to make sure that the top edge of the mounting foot is level.

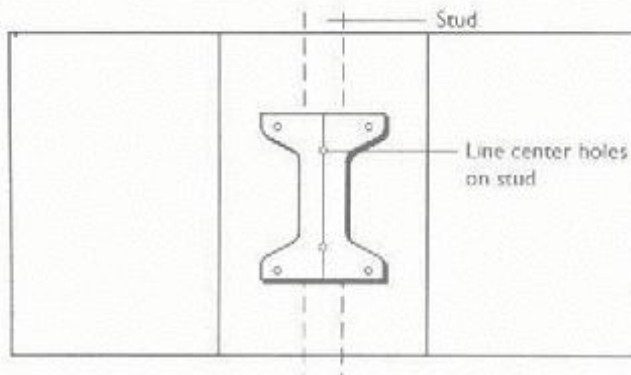


Figure 1

Center the foot on the stud.

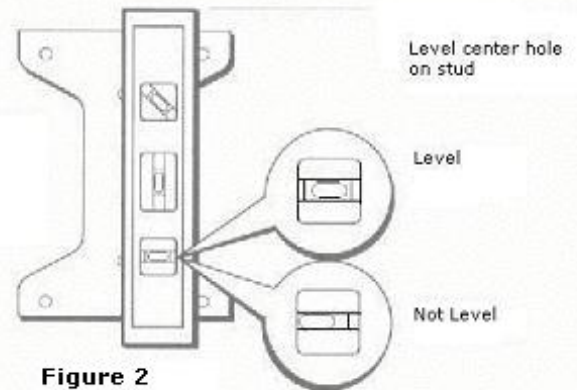


Figure 2

Make sure the mounting foot is level.

Use the appropriate lag screws as indicated below.

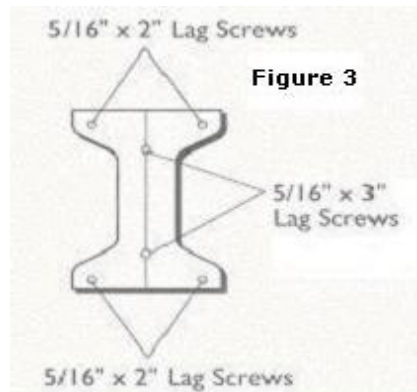


Figure 3

Use 2 5/16" x 3 for stud mounting

Use 4 5/16" x 2 for solid wood surfaces or concrete/brick using lag shields

Drill 1/2 in. hole for concrete 5/16 in. lag shield.

Drill 3/16 in. hole for 5/16 in. lag screw

Drill 1/4 in. hole for #10-12 x 1 in. w/anchor

Note: For DRY Wall or Hollow Wall, Please use DRY-Wall anchors (NOT SUPPLIED)

You also need to use the bubble level to make sure the top part of the mast is vertical. If the mast is not vertical it will make it difficult or impossible for you to aim the antenna for the strongest signal.

The first diagram below shows how to make sure that the top edge of the mounting foot is level. The diagram on the right shows how to make sure the top part of the mast is vertical (be sure to check at least two adjacent sides).

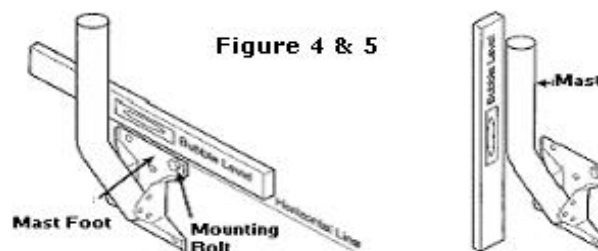
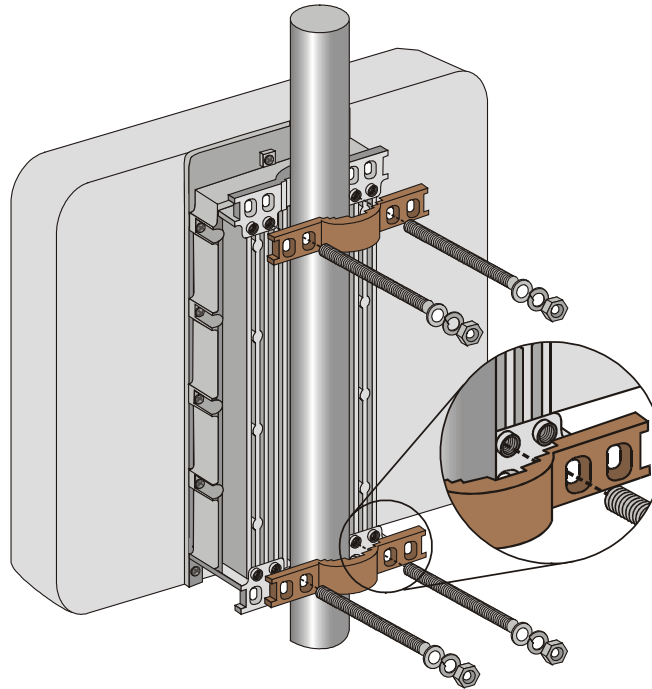


Figure 4 & 5

If you are sure the foot is level, and mast is vertical, tighten the bolts. Center the foot and ensure is level.

Attaching the Outdoor Unit (ODU)

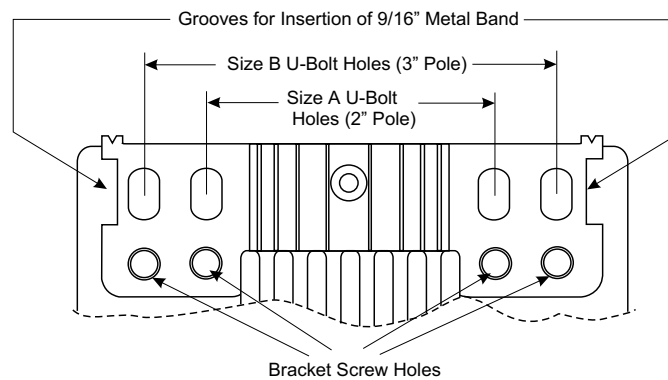
Attach the ODU Outdoor Unit (ODU) to the mast using the **inner** set of holes. This is the appropriate size for the universal mount pole diameter.



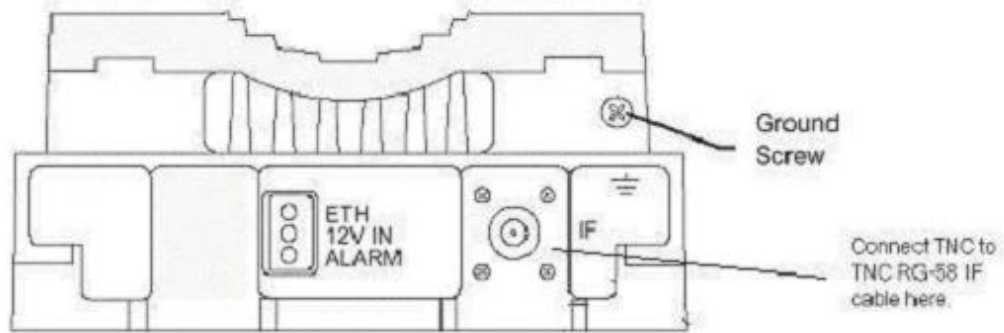
Pole Mounting Installation Using the Special Brackets

Note: Do not tighten the nuts fully, until after the antenna alignment has been completed

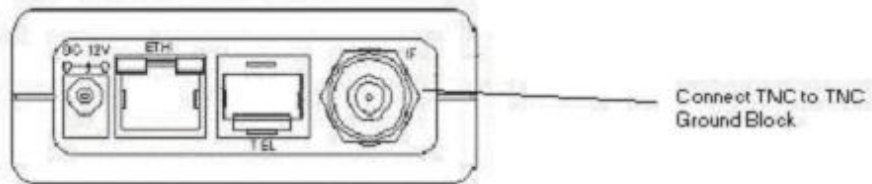
Note: When inserting the open-ended screws, make sure to insert them with the grooves pointing outwards; these grooves are intended to allow fastening of the screws with a screwdriver.



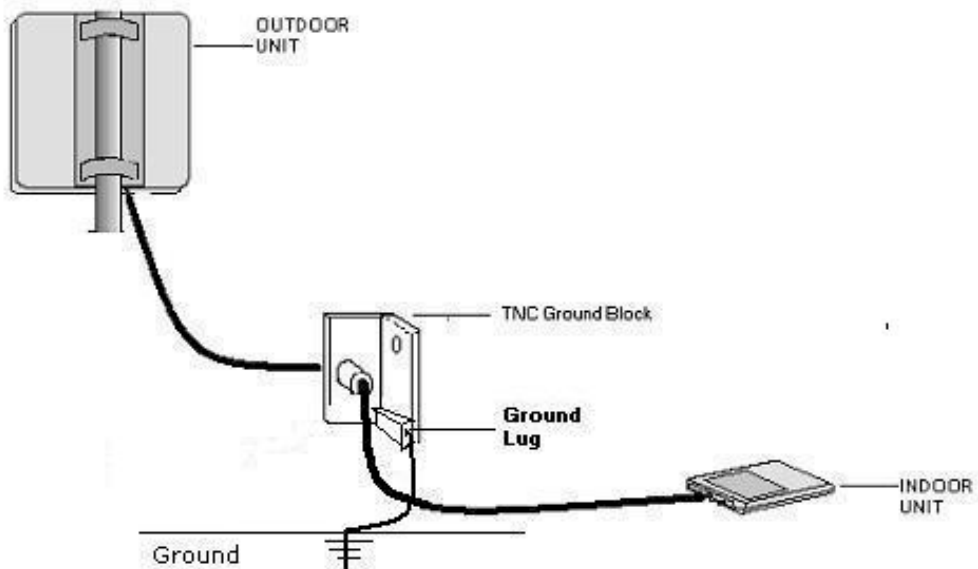
Connect the IF cable to the TNC connectors and ground the ODU and IF cable as shown below.



BreezeACCESS MMDS Radio Unit Bottom Panel



Connect Outdoor (ODU) units to TNC Ground Block and to Indoor (IDU) units



RF Cable Protection

Step 1: Inspect the cable and connectors. Look for any cuts in the black shielding. Check connectors to make sure that they are tight. Pull firmly on the connector to check for any play. Check the threads of the connectors for stripping or gouges. Damaged cables or connectors should be returned to place of purchase for exchange.

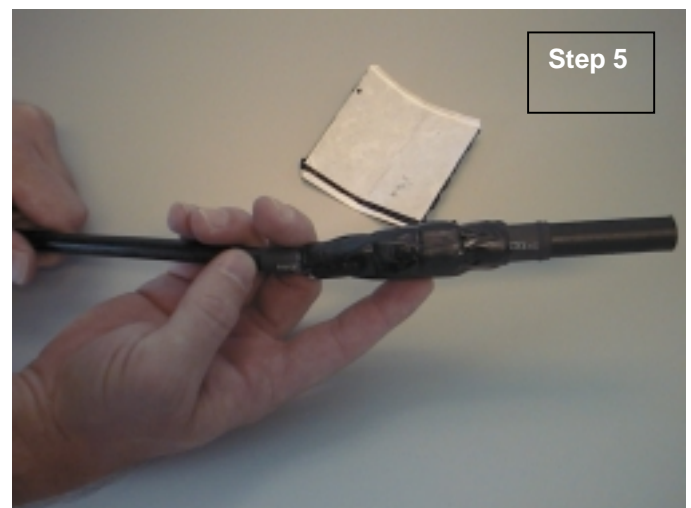
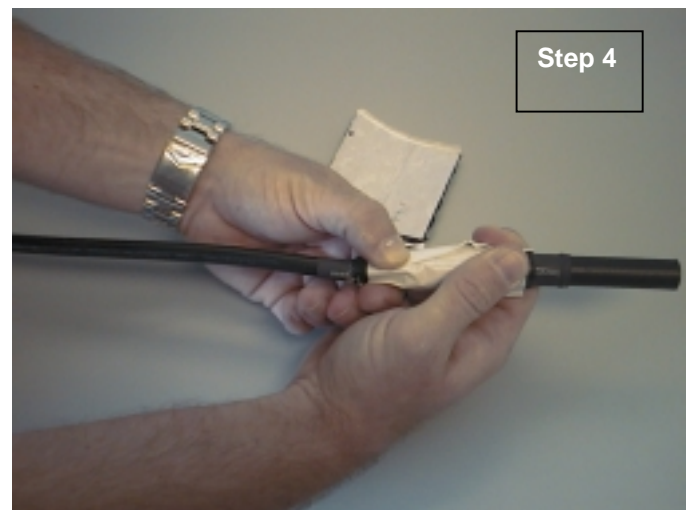
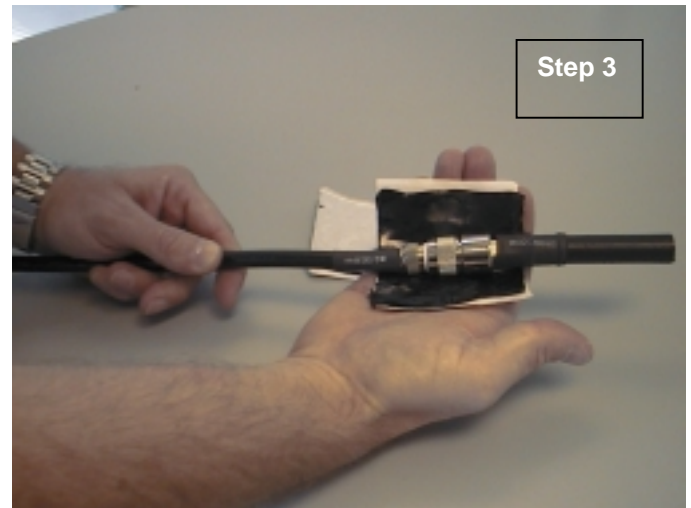
Step 2: Connect and tighten the connectors by hand. N-Type or TNC connectors are designed to be tightened by hand. Over-tightening the connector can cause damage and compromise the RF signal quality.

Step 3: Apply the black coax seal tar pack. Two of these patches are included with installation kit. Peel only one side of the white paper from the compound square and center the square in the cable connector so that all of the metal connector is covered with coax seal tar patch.

Step 4: Push the coax seal tar patch firmly into the connector and its grooves with the paper still attached.

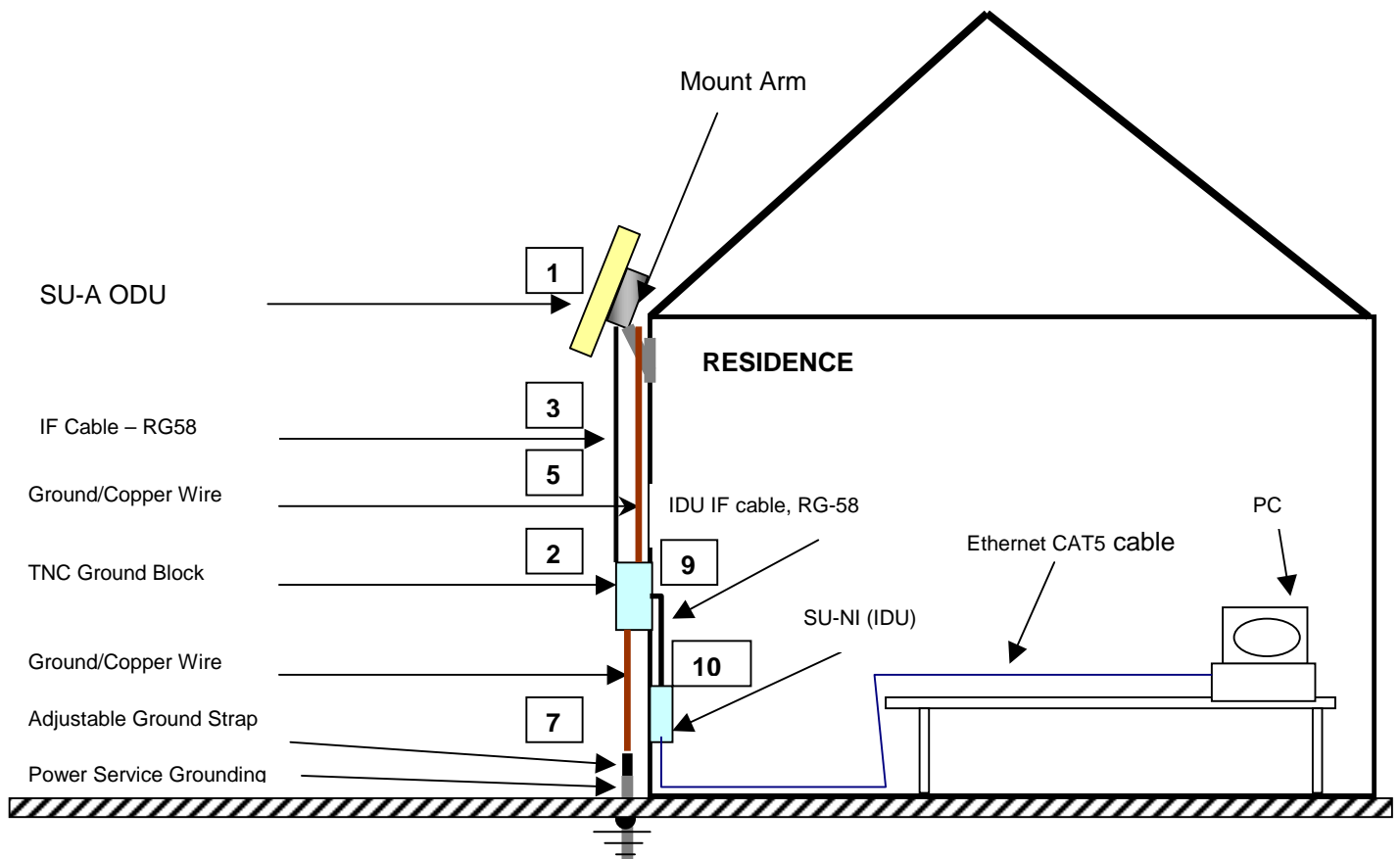
Step 5: Remove the remaining paper from the coax seal tar patch and flatten down any lifted areas. Make sure that all of the metal connector is completely covered.

Note: The black coax seal tar patch will feel like chewing gum for a few weeks. This does not diminish its weather-proofing qualities. After some time in the sun, the compound will harden and become permanent.



Grounding Method

1. Mount Antenna/ODU unit following instructions on pages 3-6.
2. Install TNC Ground block at entrance to building.
3. Run and connect IF cable RG-58 to ODU unit IF port.
4. Connect IF cable RG-58 to TNC Ground Block. (page 6)
5. Run Ground Copper Wire from Antenna/ODU to Power Service grounding Rod.
6. Connect Ground Copper Wire to ODU Ground Screw (page 6)
7. Connect Ground Copper Wire to Power Service Grounding using the Adjustable Ground Strap. (page 6)
8. Connect TNC Ground Block to Ground Copper Wire using Grounding Lug. (page 6)
9. Connect IDU IF Cable RG-58 to Ground Block. (page 6)
10. Connect IDU IF Cable RG-58 to IDU unit IF port. (page 6)
11. Apply Coax seal tar pack to seal TNC IF connectors on both ODU and Ground Block. (page 7)



AIMING THE ANTENNA FOR THE STRONGEST SIGNAL

This procedure explains how to fine tune the aim of the antenna and lock onto the strongest signal. For further explanation please refer to BreezeACCESS SU-A/E Installation Guide.

1. Aim the antenna in the direction of the nearest tower site along the azimuth previously determined.
2. Look at the LEDs on the Outdoor Unit (ODU). If it displays 3 or more green lights you are aiming at the cell site you selected and have a strong enough signal. The number of lights that are lit rises as the signal gets stronger, and lowers as the signal strength drops. The signal lights should stay lit and be steady.
3. Loosen the mast clamp bolts just enough to be able to move the support bracket. Slowly move the antenna from side to side until you find the strongest signal. Tighten the mast clamp bolts just enough so the antenna cannot be moved from side to side.
4. Loosen the elevation bolts and pivot bolt just enough to be able to move the support bracket. Slowly move (about 1 or 2 degrees per 5 seconds) the antenna up and down until you find the strongest signal. Tighten the elevation bolts and pivot bolt just enough so the antenna cannot be moved up and down.
5. Repeat steps 3 and 4 until the Signal Strength bar displays the highest number green lights indicating the strongest possible signal.
6. Avoid placing yourself directly in front of the antenna while aiming it, as your body may block much or the entire cell site signal.
7. To obtain stronger signal, move the antenna slowly from side to side, or slowly up and down, but not both at the same time. Loosen the bolts before each movement, and tighten them again before the next movement.
8. When the Signal Strength bar displays the highest number green lights this indicates the strongest possible signal, tighten all the bolts to prevent movement of the antenna.
9. Mark the final locations on the mast and mounting bracket with a permanent marker. This assists you later if you have to realign the antenna because of movement due to wind or weather. Do not scratch the painted surfaces to mark them. This will cause rusting.

TROUBLESHOOTING

Cabling and connection

1. Make sure you are using the proper type of coax cable to connect to grounding block and to Indoor (IDU) and Outdoor (ODU) units.
2. Make sure the Indoor (IDU) unit is in power ON position.
3. Check all cables and connections to make sure they are securely fastened to the proper connectors.

Antenna positioning and low signal problems

1. Verify that you are positioning the antenna in the correct azimuth (Horizontal) and elevation.
2. Make sure that antenna mast is level.
3. Use a compass to verify antenna alignment.
4. Make sure there are no obstructions (trees, buildings, hills, etc.) that can block the signal to your antenna.

TECHNICAL SUPPORT

Support Line Call 1-760-517-3100 Extension "5"

Call this number to resolve installation problems/questions 6:00 am to 5:00 pm PST Monday thru Friday.

E-mail us at usa-support@alvarion.com

E-mail us to resolve installation problems and care questions.

Visit our Web Site at <http://www.alvarion.com/>

APPENDIX A

Antenna Mast



Mounting Screws for mast



Washers for screws/mast



Lag shield



Ground Wire



Ground Block



Mnt screws Ground Block



Ground Lug



Coax seal tar pack



Ground Strap



CAT5 Ethernet cable



IF Cable (IDU)

