
SU-A-MB-12-EZ CPE for BreezeACCESS VL Quick Installation Guide

This Quick Installation Guide is intended for experienced installers. For more information refer to the relevant sections in the *BreezeAccess VL System Manual*.

ODU CPE Package Content

Check that the package contains:

- ODU CPE Outdoor Unit (with integral antenna)
- A wall and pole mounting kit
- Mains power cord (this item is packed separately from the IDU package).
- This Quick Installation Guide

PRELIMINARY

Tilt Accessory Kit (Optional)

Ordered separately.

Additional Equipment and Tools Required for Installation

- Ethernet cable for connecting to the user's data equipment (crossed for connecting to a hub/switch, straight for connecting to a PC)
- Indoor-to-outdoor Category 5E Ethernet cable. Use only Category 5E cables approved by the supplier. The length of the Indoor-to-Outdoor cable should not exceed 90 meters. The length of the Indoor-to-Outdoor cable, together with the length of the Ethernet cable connecting the CPE-IDU-1D to the data equipment, should not exceed 100 meters.
- Two shielded RJ-45 connectors
- Grounding cable with an appropriate termination.
- Mains plug adapter or termination plug (if the power plug on the supplied AC power cord does not fit local power outlets).
- Portable PC/Notebook and a straight Ethernet cable for configuring parameters using Telnet. TFTP server SW is required for downloading SW versions. OR portable PC/Notebook or Pocket PC/PDA and a straight Ethernet cable for configuring parameters using a web browser
- Installation tools and materials, including appropriate means (e.g. a pole) for installing the outdoor unit (and antenna where applicable) and for sealing any outdoor connectors.
- To connect directly to the ODU for configuration/performance monitoring: A special Y-cable and a Notebook or PDA with web browser.
- Optional SU Alignment Unit (SAU) for easy alignment of the antenna.

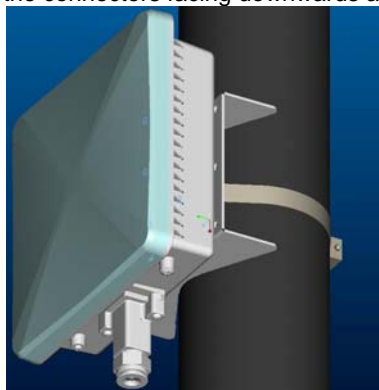
WARNING: ONLY experienced installation professionals who are familiar with local building and safety codes and, wherever applicable, are licensed by the appropriate government regulatory authorities should install outdoor units and antennas. Failure to do so may void the product warranty and may expose the end user or Service Provider to legal and financial liabilities. The manufacturer and its resellers or distributors are not liable for injury, damage or regulation violations associated with the installation of outdoor units or antennas.

Equipment Location Guidelines

The antenna should provide a direct, or near line of sight, with the Base Station antenna. The higher the placement of the antenna, the better the achievable link quality. The location of the ODU should enable easy access to the unit for installation and testing.

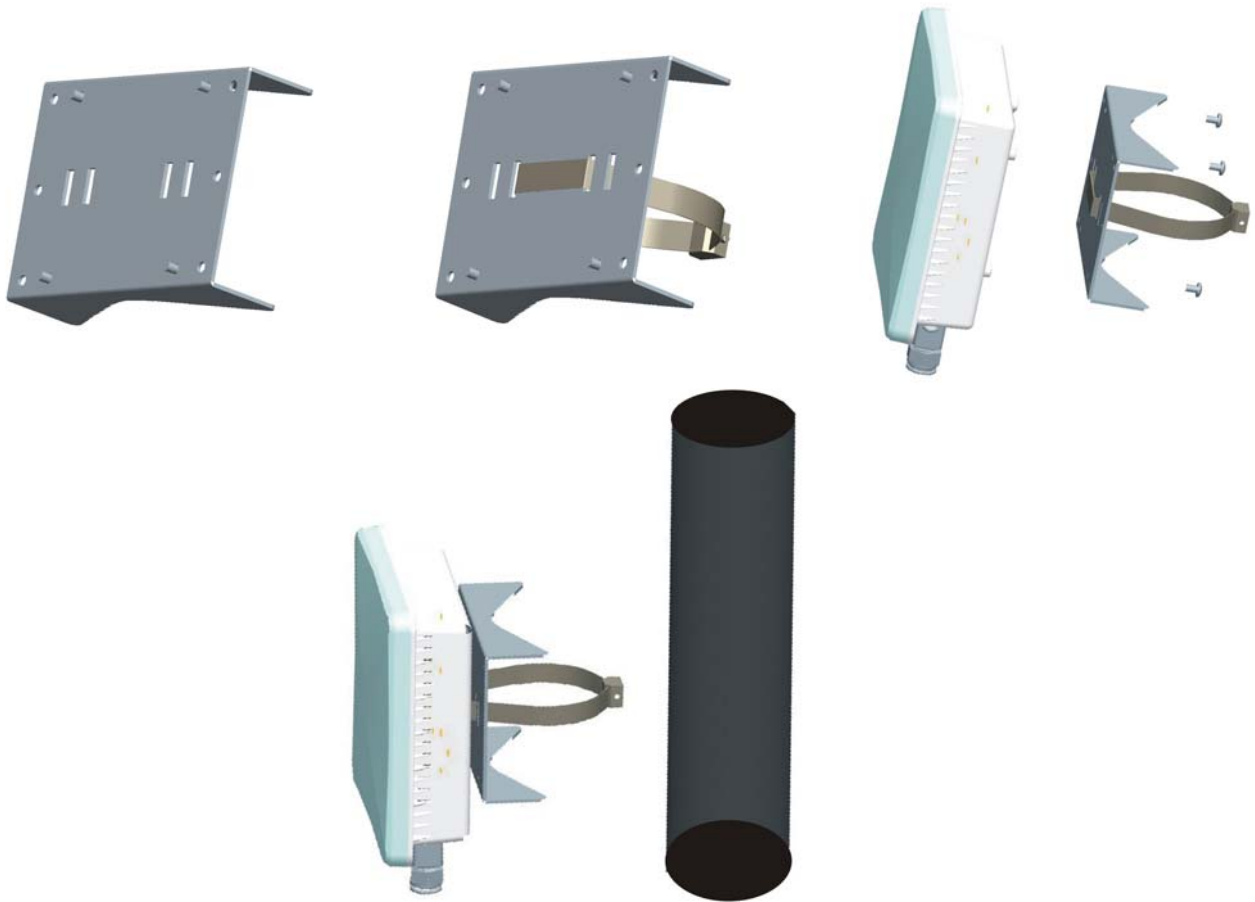
ODU Installation

Mount the ODU unit using the clamp, band and screws supplied with the unit. The unit's antenna is polarized vertically in the direction of the RJ45 port. Install the unit with the connectors facing downwards as shown in the following image.



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1. Thread the provided metal band through the adaptor bracket and use the screws provided with the mounting kit to attach the adaptor bracket to the unit.



2. Connect a grounding cable between the Ground terminal of the ODU (marked \perp) and a good ground connection.
3. Align the unit using the LED display.

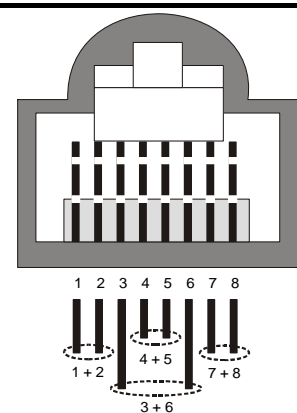
Preparing the IDU-ODU Cable

Use a crimp tool for RJ-45 connectors to prepare the wires. Insert them into the appropriate pins and use the tool to crimp the connector. Make sure to do the following:

- Remove as small a length as possible of the external jacket. Verify that the external jacket is well inside the sealing cover when connected to the unit.
- Pull back the shield drain wire before inserting the cable into the RJ-45 connector, to ensure a good connection with the connector's shield after crimping.

The following diagram shows the required wire pair pin-to-pin connections, including the color codes used in cables supplied by the manufacturer.

Wire color	Pin
Blue	1
Blue/white	2
Orange	3
Orange/white	6
Brown	4
Brown/white	5
Green	7
Green/white	8



Connecting the IDU-ODU Cable

1. Remove the sealing cap of the ODU connector.
2. The sealing cap has a special groove allowing to insert an Ethernet cable with an already assembled RJ-45 connector through the cap. To expose the groove, lightly squeeze the cap. Carefully insert the cable with the assembled connector through the groove.

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3. Connect the Ethernet cable to the ODU RJ-45 connector.
4. Put the sealing cap back in its place to ensure protection against moisture. Make sure that the small protrusion on the side of the cap fits inside the hole on the connector's protective body.
5. Use appropriate sealing material to protect the connection against moisture and humidity. Use high quality sealing material such as Scotch® 130C Linerless Rubber Splicing Tape from 3M to ensure IP-67 compliant protection against dust and water.
6. Route the cable to the location selected for the indoor equipment.
7. Assemble an RJ-45 connector with a protective cover on the indoor end of the ODU cable. Refer to the pin assignment and color codes in standard cables described below.

IDU Installation

1. The unit can be placed on a desktop or a shelf. Alternatively, it may be wall-mounted. The drilling template included with the unit can be used to simplify the wall installation process.
2. Connect the ODU cable to the RADIO port.
3. Connect the indoor unit to the AC mains using the power cord supplied with the unit.

NOTE: The indoor unit should be connected to the power source only after it has been connected to the outdoor unit. The color codes of the power cord are:

<i>Brown</i>	<i>Phase</i>	<i>~</i>
<i>Blue</i>	<i>Neutral</i>	<i>0</i>
<i>Yellow/green</i>	<i>Grounding</i>	<i>⊕</i>

4. Use a crossed Ethernet cable to connect the ETHERNET port to a Hub/Switch. Use a straight Ethernet cable to connect directly to a PC's NIC.

Basic Configuration

1. Initial configuration can be performed using either Telnet for accessing the Installer Monitor program or a web browser for accessing the built-in Web Configuration Server.
2. To configure parameters using Telnet, connect a PC/Notebook to the Ethernet port of the IDU, using a straight Ethernet cable.
3. To configure parameters using the Web Configuration Server, connect a PC/Notebook or a Pocket PC/PDA with a web browser to the Ethernet port of the IDU, using a straight Ethernet cable.
4. You can also connect directly to the ODU's IDU COM, using the special Y-cable (see instructions below).
5. Configure the PC's IP parameters to enable connectivity with the unit. The IP address of the SU for local management access is 192.168.254.251. The Subnet Mask is 255.255.255.0. The recommended IP address for the PC is 192.168.254.250, as this is also the default TFTP Sever IP Address (required for downloading SW versions and for downloading/uploading configuration files).
6. Run the Telnet program or open a web browser, and connect to 192.168.254.251. The *Enter the password* prompt is displayed. Enter the password (the default password is "installer") and press the Enter key.
7. Configure the basic parameters required for connectivity with the base station. The following table includes the basic parameters and their default values:

Table 1: Basic Parameters

Parameter	Default Value	Comment
Ethernet Port auto Negotiation Enable/Disable	Enabled	
Ethernet Port Speed and Duplex		Applicable only if Ethernet Port Auto Negotiation Enable/Disable is set to Disable
User Name	Null	Must be supplied by system administrator
User Password	Null	Must be supplied by system administrator
Organization Name		Optional – according to administrator policy
Address		Optional– according to administrator policy
Country		Optional– according to administrator policy
BST/AU ID	186.190.0.0.250.206	
BST/AU ID Mask	255.255.255.0.0.0	
Best BST/AU Support	Disable	
Preferred BST/AU ID		
Preferred BST/AU ID Mask		
Bandwidth	3.5 MHz	
Scanning Start Frequency	Depend on Radio Band and Bandwidth	
Scanning End Frequency	Depend on Radio Band and Bandwidth	
Scanning Main Step	875 KHz	
Scanning Intermediate Steps Bits 0 to 7	0 for all eight bits	
Discrete Frequencies	Null	
Rx Attenuator (2.3 GHz units only)	0	

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- Reset the unit to apply the changes.

Aligning the Antenna

- Point the antenna toward the general direction of the Base Station.
- Connect the SAU to the ODU (optional) and verify that the PWR (power) indication on the SAU is on.
- Verify that the unit is synchronized with a Base Station. If the SU is not synchronized with a Base Station, ensure that all parameters are configured properly. If the unit is still not synchronized with a Base Station, improve the quality of the link by changing the direction of the antenna or by placing the antenna at a higher or in an alternate location.
- Rotate (and/or tilt if applicable) the ODU/antenna until the maximum link quality reading is achieved (SNR and RSSI, or when using SAU, the number of link quality LEDs). If you encounter prolonged difficulty in achieving the expected link quality, try to improve the reception quality by placing the antenna at a higher point or in an alternate location.
- Ensure that the front of the antenna is always facing the Base Station. However, in certain conditions, such as when the line of site to the Base Station is hampered, better reception may be achieved using a reflected signal. In this case, the antenna is not always directed toward the Base Station.
- Secure the unit firmly to the pole.

NOTE: In some cases, the antenna may need to be tilted to ensure that the level at which the SU receives transmissions from the AU (and vice versa) is not too high. When all LINK QUALITY LEDs are on, including LED 10, this indicates that the received signal level is too high (saturation). This must be avoided, preferably by up-tilting the antenna. As a rule of thumb, if the SU is located at a distance of less than 300 meters from the AU, it is recommended to up-tilt the antenna by approximately 10° to 15°.

Fast Configuration and Antenna Alignment Using the Y-Cable

- Disconnect the IDU-ODU cable from the ODU.
- Connect one end of the Y-cable to the ODU's IDU COM connector.
- On the other end of the Y-cable, connect a PDA/PC to the PDA connector and the IDU-ODU cable to the IDU connector.
- From the Pocket PC/Notebook, connect to the SU and complete the process of configuring basic parameters.
- Align the antenna using the instructions above.

Verifying Proper Operation

- Verify data connectivity by pinging the AU or by connecting to the Internet.
- To verify proper operation of the SU, examine the LED indicators on the IDU:

Table 2: IDU LEDs

Name	Description	Functionality
Power	Power Indication	<ul style="list-style-type: none"> ■ Off – IDU is not powered or power failed ■ Green – IDU power is OK
Link	Ethernet link status (Ethernet integrity)	<ul style="list-style-type: none"> ■ Off – No Ethernet connectivity has been detected between the outdoor unit and the device connected to the indoor unit ■ Green – Ethernet connectivity has been detected between the outdoor unit and the device connected to the indoor unit
11a	Wireless link status	<ul style="list-style-type: none"> ■ Off – SU is not associated with an AU/μBST ■ Green – SU is connected with an AU/μBST

* After power-up, the WIRELESS LED illuminates until self-test is finished.

- To verify proper operation of the ODU, examine the LEDs of the SAU:

Table 3: SAU LEDs

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a 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, uses 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 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.

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FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC 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 device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

FCC NOTICE: To comply with FCC part 15 rules in the United States, the system must be professionally installed to ensure compliance with the Part 15 certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States. The use of the system in any other combination (such as co-located antennas transmitting the same information) is expressly forbidden.

CE Statement :   

Hereby, Alvarion, declares that this device is in compliance with the essential requirement and other relevant provisions of the R&TTE Directive 1999/5/EC.

This device will be sold in the following EEA countries : Austria, Italy, Belgium, Liechtenstein, Denmark, Luxembourg, Finland, Netherlands, France, Norway, Germany, Portugal, Greece, Spain, Iceland, Sweden, Ireland, United Kingdom, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Slovakia, Poland, Slovenia.

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R&TTE Compliance Statement

This equipment complies with the appropriate essential requirements of Article 3 of the R&TTE Directive 1999/5/EC.

电子信息产品污染控制管理方法
(第39号)
(又名中国RoHS)

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板及其组件	X	○	○	○	○	○
机箱/隔板/其它金属 和塑料部件	X	○	○	○	○	○
电缆/电线	X	○	○	○	○	○
天线	○	○	○	○	○	○
安装支架/其它附件	○	○	○	○	○	○
电源供应器及其组件	X	○	○	○	○	○

(○:表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T 11363-2006标准规定的限量要求.)

(X:表示该有毒有害物质在该部件的某一均质材料中的含量超出SJ/T 11363-2006标准规定的限量要求.)

注: 未列于上表之其它零组件和部件皆符合SJ/T 11363-2006中规定的有毒有害物质的限量要求

The above table provides information required under the following Chinese legislation:

Management methods for Controlling Pollution by Electronic Information Products (No.39)

(also known as China RoHS)

150300000800E R01