NanoBeam® ac
2.4 GHz airMAX® ac CPE with Dedicated Wi-Fi Management
Model: NBE-2AC-13

Quick Start Guide
Introduction

Thank you for purchasing the Ubiquiti Networks® NanoBeam® AC. This Quick Start Guide is designed to guide you through installation and also includes warranty terms.

Package Contents

NanoBeam
Ball Joint Mount
Lock Ring
Metal Strap
Gigabit PoE (24V, 0.5A) with Mounting Bracket
Power Cord
Quick Start Guide

TERMS OF USE: Ubiquiti radio devices must be professionally installed. Shielded Ethernet cable and earth grounding must be used as conditions of product warranty. TOUGHCable™ is designed for outdoor installations. It is the professional installer’s responsibility to follow local country regulations, including operation within legal frequency channels, output power, and Dynamic Frequency Selection (DFS) requirements.
Installation Requirements

The NanoBeam can be mounted on a pole or to a wall. A *Metal Strap* (included) is used for pole-mounting. For wall-mounting, a suitable fastener such as a screw or bolt (not included) is required.

- Pole-mounting: 7 mm socket wrench or screwdriver
- Wall-mounting: wall fastener (not included)
- Shielded Category 5 (or above) cabling with drain wire should be used for all wired Ethernet connections and should be grounded through the AC ground of the PoE.

We recommend that you protect your networks from harmful outdoor environments and destructive ESD events with industrial-grade, shielded Ethernet cable from Ubiquiti Networks. For more details, visit [www.ubnt.com/toughcable](http://www.ubnt.com/toughcable)

- Surge protection should be used for all outdoor installations. We recommend that you use two Ethernet Surge Protectors, model ETH-SP, one near the NanoBeam and the other at the entry point to the building. The ETH-SP will absorb power surges and safely discharge them into the ground.
Hardware Overview

Reset Button  To reset to factory defaults, press and hold the Reset button for more than 10 seconds while the NanoBeam is powered on. Alternatively, the NanoBeam may be reset remotely via a Reset button located on the bottom of the Gigabit PoE Adapter.

Ethernet Port  This Gigabit Ethernet port is used to connect the power and should be connected to the LAN and DHCP server. Power can be provided by any of the following:

- Gigabit PoE adapter (included)
- Ubiquiti Networks EdgeSwitch®
- Ubiquiti Networks EdgeRouter™ PoE
**Power** The Power LED will light blue when the device is connected to a power source.

**Ethernet** The Ethernet LED will light steady blue when an active Ethernet connection is made and flash when there is activity.

**Signal** In airOS®, you can modify the threshold value for the wireless signal strength LEDs on the Wireless tab under Signal LED Thresholds. Each LED will light when the wireless signal strength is equal to or greater than the LED’s threshold value. The default threshold values for these LEDs are shown below:

-94 dBm  -80 dBm  -73 dBm  -65 dBm
Hardware Installation

The NanoBeam can be mounted on a pole or to a wall. Perform the steps for the appropriate installation:

**Note:** The NanoBeam can also be mounted inside a window using the NanoBeam Window Mount, model NBE-19-WM (sold separately). For instructions, see the NanoBeam Window Mount Quick Start Guide.

**Pole-Mount**

1. Insert the *Ball Joint Mount* into the *Lock Ring* with the threads of the *Lock Ring* facing the ball joint.

2. Open the *Metal Strap* and feed it through the base of the *Ball Joint Mount*.
3. Wrap the *Metal Strap* around the pole. Use a 7 mm socket wrench to turn the screw clockwise and securely fasten the clamp to the pole.

4. Attach the NanoBeam to the *Ball Joint Mount* and turn the *Lock Ring* to secure it. Keep the *Lock Ring* loose enough to allow the NanoBeam to pivot for aiming.
Wall-Mount

The NanoBeam must be mounted directly to a wood stud or other structurally stable surface to avoid damage to the mounting hole when you adjust the aim.

Optional Accessory

To enhance stability, you can use the NanoBeam Wall Mount Kit, model NBE-WMK (sold separately).

Note: Center screw included. Two optional screws (not included) provide additional stability.

Installation Instructions

1. Mark the desired location of the mounting point.
2. If needed, drill a pilot hole for the fastener (not included).
3. Insert the Ball Joint Mount into the Lock Ring with the threads of the Lock Ring facing the ball joint.
4. If you are using the optional NanoBeam Wall Mount Kit, then skip to step b.
   a. To attach the *Ball Joint Mount* to the wall, insert a fastener (not included) through the center of the ball joint, and into the wall. Securely tighten the fastener. Proceed to step 5.
   
b. To attach the *Ball Joint Mount* to the wall, insert the *Wall Mount Kit* screw through the center of the ball joint, through the *Wall Mount Kit* plate, and into the wall. Securely tighten the screw.
5. Attach the NanoBeam to the *Ball Joint Mount* and turn the *Lock Ring* to secure it. Keep the *Lock Ring* loose enough to allow the NanoBeam to pivot for aiming.

### Aiming

1. Ensure the opening of the Ethernet cable is pointed towards the ground.
2. Aim the front of the NanoBeam towards the other end of the wireless link.
3. Hand-tighten the *Lock Ring* to lock the aim.

**Note:** Do not use a tool to tighten the *Lock Ring*. Tighten the *Lock Ring* by hand only.
Connecting Power

1. Remove the port cover by pressing down the center of the cover and sliding the cover out.

2. Connect an Ethernet cable to the Ethernet port.

3. Replace the port cover.
4. Connect the power using one of the following options:
   • Using the included Gigabit PoE Adapter: Go to Connecting to the PoE Adapter.
   • Using a separate PoE switch: Connect the Ethernet cable from the NanoBeam’s Ethernet port to a PoE-enabled Ethernet port on the switch.

   ! WARNING: The switch port must comply with the power specifications listed in the Specifications section of this Quick Start Guide.

Connecting to the PoE Adapter

1. Connect the Ethernet cable from the NanoBeam’s Ethernet port to the POE port of the Gigabit PoE adapter.
2. Connect an Ethernet cable from your LAN to the adapter’s LAN port.
3. Connect the Power Cord to the adapter’s power port. Connect the other end of the Power Cord to a power outlet.

Mounting the PoE Adapter (Optional)

1. Remove the PoE Mounting Bracket from the adapter, place the bracket at the desired location, and mark the two holes.
2. Pre-drill the holes if necessary, and secure the bracket using two fasteners (not included).
3. Align the adapter’s slots with the tabs of the PoE Mounting Bracket, and then slide the adapter down.
Accessing airOS via Wi-Fi

Verify connectivity in the airOS Configuration Interface. There are two methods, the UNMS™ App and Web Portal. Both are available for 15 minutes immediately after you power on the NanoBeam. If necessary, you can power cycle the NanoBeam to re-enable its Wi-Fi.

Proceed to the appropriate instructions:

**UNMS App**

1. Download the UNMS app from the App Store (iOS) or Google Play™ (Android).

2. Connect your device’s Wi-Fi to the NanoBeam SSID named: **NBE-2AC-13:<MAC Address>**

   **Note:** Ensure that DHCP is enabled on your Wi-Fi adapter.

3. Launch the app.
4. Tap the NanoBeam on the *Connections* screen.
5. Tap **Connect** on the **Login** screen.

![Login screen with connection details]

6. Select your **Country** and tap **Done**.

![Country selection screen]
7. Customize your settings as needed.

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<td>System</td>
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**Wireless Mode** | **Station PtP**

**SSID** | www.ubnt.com

**Select SSID...**

**Security** | None

**Country** | United Kingdom

**Channel Width** | Auto - 20/40/80 MHz

**Control Frequency List** | Off

**Antenna** | Built-In - 13 dBi
Web Portal

1. Connect your device’s Wi-Fi to the NanoBeam SSID named: **NBE-2AC-13:<MAC Address>**
   
   **Note:** Ensure that your Wi-Fi connection has DHCP enabled.

2. Launch a web browser and go to: **http://setup.ubnt.com**

3. Enter **ubnt** in the **Username** and **Password** fields. Select your **Country** and **Language**. You must agree to the **Terms of Use** to use the product. Click **Login**.

   ![Login](image)

   **Note:** The **Country** setting for U.S. product versions is restricted to a choice of Canada, Puerto Rico, or the U.S. to ensure compliance with FCC/IC regulations.

The airOS Configuration Interface will appear, allowing you to customize your settings as needed. For additional details on the airOS Configuration Interface, refer to the User Guide available at [www.ubnt.com/download/airmax](http://www.ubnt.com/download/airmax)
Installer Compliance Responsibility

Devices must be professionally installed and it is the professional installer's responsibility to make sure the device is operated within local country regulatory requirements.

The *Output Power* field is provided to the professional installer to assist in meeting regulatory requirements.
# Specifications

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| **Dimensions (Mount Included)** | 189 x 189 x 125 mm  
(7.44 x 7.44 x 4.92”)* |
| **Weight (Mount Included)** | 530 g (1.17 lb) |
| **Gain** | 13 dBi |
| **Networking Interface** | (1) 10/100/1000 Ethernet Port |
| **Enclosure** | Outdoor UV Stabilized Plastic |
| **Max. Power Consumption** | 7.5W |
| **Power Supply** | 24V, 0.5A Gigabit PoE Adapter (Included) |
| **Power Method** | Passive PoE (Pairs 4, 5+; 7, 8 Return) |
| **Wind Loading** | 45.4 N @ 200 km/h  
(10.2 lbf @ 125 mph) |
| **Wind Survivability** | 200 km/h  
(125 mph) |
| **Mounting** | Pole-Mount (Kit Included)  
Wall-Mount (Not Included)  
Window-Mount (Not Included) |
| **ESD/EMP Protection** | ± 24kV Contact/Air |
| **Operating Temperature** | -40 to 70° C  
(-40 to 158° F) |
| **Operating Humidity** | 5 to 95% Noncondensing |
| **Certifications** | CE, FCC, IC |

## Operating Frequency (MHz)

| Worldwide | 2412 - 2472 |
| USA | 2412 - 2462 |

## Management Radio (MHz)

| Worldwide | 5150 - 5250 |
| USA | U-NII-3: 5725 - 5850 |
Safety Notices

1. Read, follow, and keep these instructions.
2. Heed all warnings.
3. Only use attachments/accessories specified by the manufacturer.

⚠️ **WARNING:** Do not use this product in a location that can be submerged by water.

⚠️ **WARNING:** Avoid using this product during an electrical storm. There may be a remote risk of electric shock from lightning.

Electrical Safety Information

1. Compliance is required with respect to voltage, frequency, and current requirements indicated on the manufacturer’s label. Connection to a different power source than those specified may result in improper operation, damage to the equipment or pose a fire hazard if the limitations are not followed.

2. There are no operator serviceable parts inside this equipment. Service should be provided only by a qualified service technician.

3. This equipment is provided with a detachable power cord which has an integral safety ground wire intended for connection to a grounded safety outlet.
   a. Do not substitute the power cord with one that is not the provided approved type. Never use an adapter plug to connect to a 2-wire outlet as this will defeat the continuity of the grounding wire.
   b. The equipment requires the use of the ground wire as a part of the safety certification, modification or misuse can provide a shock hazard that can result in serious injury or death.
   c. Contact a qualified electrician or the manufacturer if there are questions about the installation prior to connecting the equipment.
   d. Protective earthing is provided by Listed AC adapter. Building installation shall provide appropriate short-circuit backup protection.
   e. Protective bonding must be installed in accordance with local national wiring rules and regulations.
Limited Warranty

UBIQUITI NETWORKS, Inc ("UBIQUITI NETWORKS") warrants that the product(s) furnished hereunder (the “Product(s)”) shall be free from defects in material and workmanship for a period of one (1) year from the date of shipment by UBIQUITI NETWORKS under normal use and operation. UBIQUITI NETWORKS’ sole and exclusive obligation and liability under the foregoing warranty shall be for UBIQUITI NETWORKS, at its discretion, to repair or replace any Product that fails to conform to the above warranty during the above warranty period. The expense of removal and reinstallation of any Product is not included in this warranty. The warranty period of any repaired or replaced Product shall not extend beyond its original term.

Warranty Conditions

The above warranty does not apply if the Product:

(I) has been modified and/or altered, or an addition made thereto, except by Ubiquiti Networks, or Ubiquiti Networks’ authorized representatives, or as approved by Ubiquiti Networks in writing;

(II) has been painted, rebranded or physically modified in any way;

(III) has been damaged due to errors or defects in cabling;

(IV) has been subjected to misuse, abuse, negligence, abnormal physical, electromagnetic or electrical stress, including lightning strikes, or accident;

(V) has been damaged or impaired as a result of using third party firmware;

(VI) has no original Ubiquiti MAC label, or is missing any other original Ubiquiti label(s); or

(VII) has not been received by Ubiquiti within 30 days of issuance of the RMA.

In addition, the above warranty shall apply only if: the product has been properly installed and used at all times in accordance, and in all material respects, with the applicable Product documentation; all Ethernet cabling runs use CAT5 (or above), and for outdoor installations, shielded Ethernet cabling is used, and for indoor installations, indoor cabling requirements are followed.

Returns

No Products will be accepted for replacement or repair without obtaining a Return Materials Authorization (RMA) number from UBIQUITI NETWORKS during the warranty period, and the Products being received at UBIQUITI NETWORKS’ facility freight prepaid in accordance with the RMA process of UBIQUITI NETWORKS. Products returned without an RMA number will not be processed and will be returned freight collect or subject to disposal. Information on the RMA process and obtaining an RMA number can be found at: www.ubnt.com/support/warranty
Disclaimer

EXCEPT FOR ANY EXPRESS WARRANTIES PROVIDED HEREIN, UBIQUITI NETWORKS, ITS AFFILIATES, AND ITS AND THEIR THIRD PARTY DATA, SERVICE, SOFTWARE AND HARDWARE PROVIDERS HEREBY DISCLAIM AND MAKE NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS, IMPLIED OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, REPRESENTATIONS, GUARANTEES, OR WARRANTIES OF MERCHANTABILITY, ACCURACY, QUALITY OF SERVICE OR RESULTS, AVAILABILITY, SATISFACTORY QUALITY, LACK OF VIRUSES, QUIET ENJOYMENT, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT AND ANY WARRANTIES ARISING FROM ANY COURSE OF DEALING, USAGE OR TRADE PRACTICE IN CONNECTION WITH SUCH PRODUCTS AND SERVICES. BUYER ACKNOWLEDGES THAT NEITHER UBIQUITI NETWORKS NOR ITS THIRD PARTY PROVIDERS CONTROL BUYER’S EQUIPMENT OR THE TRANSFER OF DATA OVER COMMUNICATIONS FACILITIES, INCLUDING THE INTERNET, AND THAT THE PRODUCTS AND SERVICES MAY BE SUBJECT TO LIMITATIONS, INTERRUPTIONS, DELAYS, CANCELLATIONS AND OTHER PROBLEMS INHERENT IN THE USE OF COMMUNICATIONS FACILITIES. UBIQUITI NETWORKS, ITS AFFILIATES AND ITS AND THEIR THIRD PARTY PROVIDERS ARE NOT RESPONSIBLE FOR ANY INTERRUPTIONS, DELAYS, CANCELLATIONS, DELIVERY FAILURES, DATA LOSS, CONTENT CORRUPTION, PACKET LOSS, OR OTHER DAMAGE RESULTING FROM ANY OF THE FOREGOING. In addition, UBIQUITI NETWORKS does not warrant that the operation of the Products will be error-free or that operation will be uninterrupted. In no event shall UBIQUITI NETWORKS be responsible for damages or claims of any nature or description relating to system performance, including coverage, buyer’s selection of products (including the Products) for buyer’s application and/or failure of products (including the Products) to meet government or regulatory requirements.

Limitation of Liability

EXCEPT TO THE EXTENT PROHIBITED BY LOCAL LAW, IN NO EVENT WILL UBIQUITI OR ITS SUBSIDIARIES, AFFILIATES OR SUPPLIERS BE LIABLE FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES (INCLUDING LOST PROFIT, LOST DATA, OR DOWNTIME COSTS), ARISING OUT OF THE USE, INABILITY TO USE, OR THE RESULTS OF USE OF THE PRODUCT, WHETHER BASED IN WARRANTY, CONTRACT, TORT OR OTHER LEGAL THEORY, AND WHETHER OR NOT ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
Note

Some countries, states and provinces do not allow exclusions of implied warranties or conditions, so the above exclusion may not apply to you. You may have other rights that vary from country to country, state to state, or province to province. Some countries, states and provinces do not allow the exclusion or limitation of liability for incidental or consequential damages, so the above limitation may not apply to you. EXCEPT TO THE EXTENT ALLOWED BY LOCAL LAW, THESE WARRANTY TERMS DO NOT EXCLUDE, RESTRICT OR MODIFY, AND ARE IN ADDITION TO, THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE LICENSE OF ANY SOFTWARE (EMBEDDED IN THE PRODUCT) TO YOU. The United Nations Convention on Contracts for the International Sale of Goods shall not apply to any transactions regarding the sale of the Products.

Compliance

FCC

Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the 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 equipment has been tested and found to comply with the limits for a Class A 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 commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operations of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This radio transmitter (FCC ID: SWX-NBE2ACN) has been approved by FCC.
ISED Canada

CAN ICES-3(A)/NMB-3(A)

This device complies with ISED Canada licence-exempt RSS standard(s). Operation 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.

This radio transmitter (IC: 6545A-NBE2ACN) has been approved by ISED Canada.

CAN ICES-3(A)/NMB-3(A)

Le présent appareil est conforme aux CNR d’ISDE Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes :

1. L’appareil ne doit pas produire de brouillage;
2. L’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.

Le présent émetteur radio (IC: 6545A-NBE2ACN) a été approuvé par ISDE Canada.

RF Exposure Warning

The antennas used for this transmitter must be installed to provide a separation distance of at least 41 cm from all persons and must not be located or operating in conjunction with any other antenna or transmitter.

Les antennes utilisées pour ce transmetteur doivent être installé en considérant une distance de séparation de toute personnes d’au moins 41 cm et ne doivent pas être localisé ou utilisé en conflit avec tout autre antenne ou transmetteur.
Australia and New Zealand

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

CE Marking

CE marking on this product represents the product is in compliance with all directives that are applicable to it.

Country List

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BFWA (Broadband Fixed Wireless Access) members noted in blue

Note: This device meets Max. TX power limit per ETSI regulations.

The following apply to products that operate in the 5 GHz frequency range:

Note: This device is restricted to indoor use only when operating in the 5150 - 5350 MHz frequency range within all member states.

Note: All countries listed may operate at 30 dBm. BFWA member states may operate at 36 dBm.

Note: Operation in the 5.8 GHz frequency band is prohibited in BFWA member states. Other countries listed may use the 5.8 GHz frequency band.
RoHS/WEEE Compliance Statement

English

European Directive 2012/19/EU requires that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product should be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities. Correct disposal and recycling will help prevent potential negative consequences to the environment and human health. For more detailed information about the disposal of your old equipment, please contact your local authorities, waste disposal service, or the shop where you purchased the product.

Deutsch

Español
La Directiva 2012/19/UE exige que los equipos que lleven este símbolo en el propio aparato y/o en su embalaje no deben eliminarse junto con otros residuos urbanos no seleccionados. El símbolo indica que el producto en cuestión debe separarse de los residuos domésticos convencionales con vistas a su eliminación. Es responsabilidad suya desechar este y cualesquiera otros aparatos eléctricos y electrónicos a través de los puntos de recogida que ponen a su disposición el gobierno y las autoridades locales. Al desechar y reciclar correctamente estos aparatos estará contribuyendo a evitar posibles consecuencias negativas para el medio ambiente y la salud de las personas. Si desea obtener información más detallada sobre la eliminación segura de su aparato usado, consulte a las autoridades locales, al servicio de recogida y eliminación de residuos de su zona o pregunte en la tienda donde adquirió el producto.

Français
La directive européenne 2012/19/UE exige que l’équipement sur lequel est apposé ce symbole sur le produit et/ou son emballage ne soit pas jeté avec les autres ordures ménagères. Ce symbole indique que le produit doit être éliminé dans un circuit distinct de celui pour les déchets des ménages. Il est de votre responsabilité de jeter ce matériel ainsi que tout autre matériel électrique ou électronique par les moyens de collecte indiqués par le gouvernement et les pouvoirs publics des collectivités territoriales. L’élimination et le recyclage en bonne et due forme ont pour but de lutter contre l’impact néfaste potentiel de ce type de produits sur l’environnement et la santé publique. Pour plus d’informations sur le mode d’élimination de votre ancien équipement, veuillez prendre contact avec les pouvoirs publics locaux, le service de traitement des déchets, ou l’endroit où vous avez acheté le produit.

Italiano
La direttiva europea 2012/19/UE richiede che le apparecchiature contrassegnate con questo simbolo sul prodotto e/o sull’imballaggio non siano smaltite insieme ai rifiuti urbani non differenziati. Il simbolo indica che questo prodotto non deve essere smaltito insieme ai normali rifiuti domestici. È responsabilità del proprietario smaltire sia questi prodotti sia le altre apparecchiature elettriche ed elettroniche mediante le specifiche strutture di raccolta indicate dal governo o dagli enti pubblici locali. Il corretto smaltimento ed il riciclaggio aiuteranno a prevenire conseguenze potenzialmente negative per l’ambiente e per la salute dell’essere umano. Per ricevere informazioni più dettagliate circa lo smaltimento delle vecchie apparecchiature in Vostro possesso, Vi invitiamo a contattare gli enti pubblici di competenza, il servizio di smaltimento rifiuti o il negozio nel quale avete acquistato il prodotto.
Hereby, UBIQUITI NETWORKS declares that the radio equipment type NBE-2AC-13 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.ubnt.com/compliance