



NanoBeam^{M2}
High-Performance 13 dBi
airMAX[®] CPE
Model: NBE-M2-13

QUICK START GUIDE

Introduction

Thank you for purchasing the Ubiquiti Networks[®] NanoBeam[®]. This Quick Start Guide is designed to guide you through the installation, and show you how to access the airOS[®] Configuration Interface. This Quick Start Guide also includes the warranty terms and is for use with the NanoBeamM2, model NBE-M2-13.

Package Contents



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 customer's responsibility to follow local country regulations, including operation within legal frequency channels, output power, and Dynamic Frequency Selection (DFS) requirements.

Installation Requirements

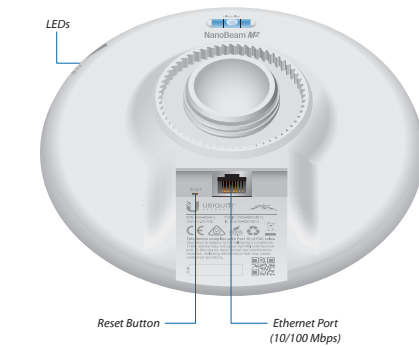
The NanoBeam can be mounted on a pole or to a wall. A *Metal Strap* (included) is used for pole-mounting. For wall-mounting, a suitable fastener such as a screw or bolt (not included) is required.

- Pole-mounting: 7 mm socket wrench or screwdriver
- Wall-mounting: wall fastener (not included)
- Shielded Category 5 (or above) cabling 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 the most brutal environments and devastating ESD attacks with industrial-grade shielded Ethernet cable, TOUGHcable from Ubiquiti Networks.

For more details, visit www.ubnt.com/toughcable

Hardware Overview



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

Ethernet Port The *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:

- *PoE Adapter* (included)
- Ubiquiti Networks EdgeSwitch™
- Ubiquiti Networks EdgeRouter™ PoE

LEDs

- ⏻ **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** The default values are shown below:
 - LED will light blue when the wireless signal strength is equal to or above -94 dBm.
 - LED will light blue when the wireless signal strength is equal to or above -80 dBm.
 - LED will light blue when the wireless signal strength is equal to or above -73 dBm.
 - LED will light blue when the wireless signal strength is equal to or above -65 dBm.

Hardware Installation

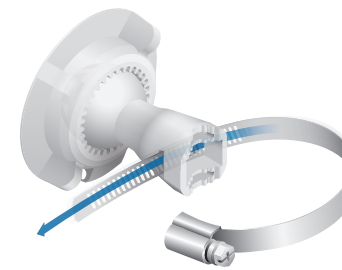
The NanoBeam can be mounted on a pole or to a wall. Perform the steps for the appropriate installation:

Pole-Mount

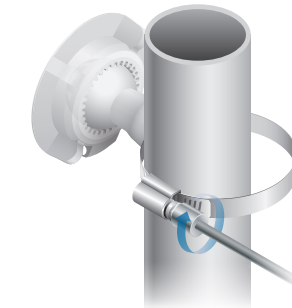
1. Insert the *Ball Joint Mount* into the *Lock Ring* with the threads of the *Lock Ring* facing the ball joint.



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

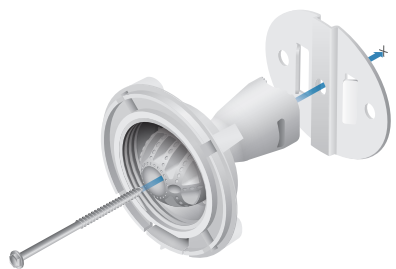
1. Mark the desired location of the mounting point.
2. If needed, drill a pilot hole for the fastener (not included).
3. Insert the *Ball Joint Mount* into the *Lock Ring* with the threads of the *Lock Ring* facing the ball joint.



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.



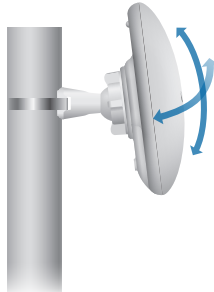
5. Attach the NanoBeam to the *Ball Joint Mount* and turn the *Lock Ring* to secure it. Keep the *Lock Ring* loose enough to allow the NanoBeam to pivot for aiming.



Aiming

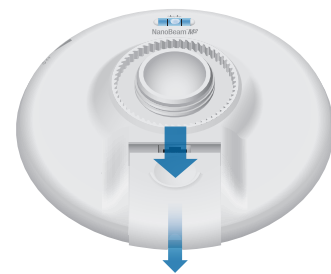
1. Ensure the opening of the Ethernet cable is pointed towards the ground.
2. Aim the front of the NanoBeam towards the other end of the wireless link.
3. Hand-tighten the *Lock Ring* to lock the aim.

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



Connecting to the PoE Adapter

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



2. Connect an Ethernet cable to the *Ethernet* port.



3. Replace the port cover.

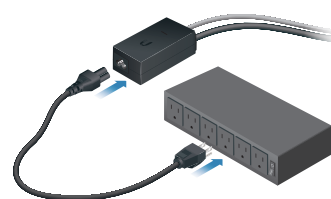
4. Connect the other end of the Ethernet cable from the NanoBeam to the Ethernet port labeled **POE** on the *PoE Adapter*.



5. Connect an Ethernet cable from your LAN or computer to the Ethernet port labeled **LAN** on the *PoE Adapter*.



6. Connect the *Power Cord* to the power port on the *PoE Adapter*. Connect the other end of the *Power Cord* to a power outlet.

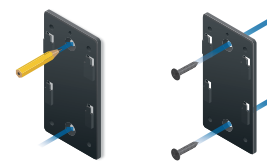


Mounting the PoE Adapter (Optional)

1. Slide the *PoE Mounting Bracket* down to remove it from the *PoE Adapter*.



2. Place the *PoE Mounting Bracket* at the desired location and mark the two holes. Pre-drill the holes if necessary, and then secure the bracket using two fasteners (not included).



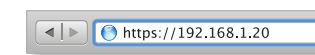
3. Align the slots of the *PoE Adapter* with the tabs of the *PoE Mounting Bracket*, and then slide the adapter down.



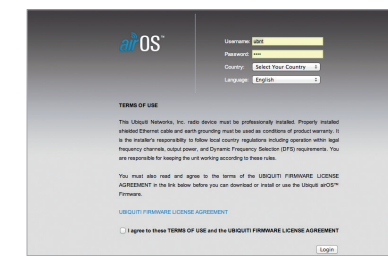
Accessing airOS

Verify connectivity in the airOS Configuration Interface.

1. Make sure that your host machine is connected via Ethernet to the NanoBeam.
2. Configure the Ethernet adapter on your host system with a static IP address on the 192.168.1.x subnet.
3. Launch your web browser and type <https://192.168.1.20> in the address field. Press **enter** (PC) or **return** (Mac).



4. The login screen will appear. Enter **ubnt** in the *Username* and *Password* fields. Select your *Country* and *Language*. You must agree to the *Terms of Use* and the *Ubiquiti Firmware License Agreement* to use the product. Click **Login**.

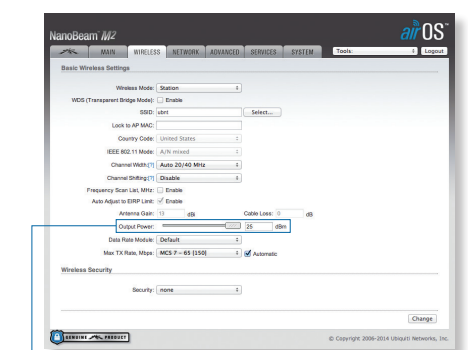


Note: For the *Country* setting, U.S. product versions are restricted to a choice of Canada, Puerto Rico, or the U.S. to ensure compliance with FCC/IC regulations.

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 documentation.ubnt.com/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.



640-00162-02

Specifications

NBE-M2-13	
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)
Operating Frequency	2402-2482MHz
Gain	13 dBi
Networking Interface	(1) 10/100 Ethernet Port
Enclosure	Outdoor UV Stabilized Plastic
Max. Power Consumption	6W
Power Supply	24V, 0.5A 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)
Certifications	CE, FCC, IC
Mounting	Pole-Mount (Kit Included) Wall-Mount (Not Included)
Operating Temperature	-40 to 80° C (-40 to 176° F)
Operating Humidity	5 to 95% Noncondensing
Salt Fog Test	IEC 68-2-11 (ASTM B117), Equivalent: MIL-STD-810 G Method 509.5
Vibration Test	IEC 68-2-6
Temperature Shock Test	IEC 68-2-14
UV Test	IEC 68-2-5 at 40° C (104° F) Equivalent: ETS 300 019-1-4
Wind-Driven Rain Test	ETS 300 019-1-4 Equivalent: MIL-STD-810 G Method 506.5

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

Pour réduire le risque d'interférence aux autres utilisateurs, le type d'antenne et son gain doivent être choisis de façon que la puissance isotrope rayonnée équivalente (PIRE) ne dépasse pas ce qui est nécessaire pour une communication réussie.

Cet appareil est conforme à la norme RSS Industrie Canada exempts de licence normale(s). Son fonctionnement est soumis aux deux conditions suivantes:

- Cet appareil ne peut pas provoquer d'interférences et
- Cet appareil doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

Cet émetteur radio (IC: 6545A-NBE2M13) a été approuvée par Industrie Canada pour l'exploitation avec l'antenne types énumérés ci-dessous avec le gain maximal admissible et requis l'impédance de l'antenne pour chaque type d'antenne indiqué. Types d'antenne non inclus dans cette liste, ayant un gain supérieur au gain maximal indiqué pour ce type, sont strictement interdits pour une utilisation avec cet appareil. Immédiatement suite à la remarque, le fabricant doit fournir une liste de tous les types d'antenne approuvé pour une utilisation avec l'émetteur, ce qui indique le gain maximal d'antenne permis (en dBi) et requis d'impédance pour chacun.

- Antenne intégré, gain: 13 dBi

Safety Notices

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

⚠ WARNING: Do not use this product in 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

- 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.
- There are no operator serviceable parts inside this equipment. Service should be provided only by a qualified service technician.
- This equipment is provided with a detachable power cord which has an integral safety ground wire intended for connection to a grounded safety outlet.
 - 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.
 - 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.
- Contact a qualified electrician or the manufacturer if there are questions about the installation prior to connecting the equipment.
- Protective earthing is provided by Listed AC adapter. Building installation shall provide appropriate short-circuit backup protection.
- 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:

- 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;
- has been painted, rebranded or physically modified in any way;
- has been damaged due to errors or defects in cabling;
- has been subjected to misuse, abuse, negligence, abnormal physical, electromagnetic or electrical stress, including lightning strikes, or accident;
- has been damaged or impaired as a result of using third party firmware;
- has no original Ubiquiti MAC label, or is missing any other original Ubiquiti label(s); or
- 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**.

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Español

La Directiva 2002/96/CE de la 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 desecher 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 recla­r 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 2002/96/CE 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 2002/96/CE 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.

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 PROFITS, 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.

- This device may not cause harmful interference, and
- 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 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 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.

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: SWX-NBE2M13) has been approved by FCC to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

- Integrated antenna, gain: 13 dBi

Industry Canada

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

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

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- This device may not cause interference, and
- This device must accept any interference, including interference that may cause undesired operation of the device.

This radio transmitter (IC: 6545A-NBE2M13) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

- Integrated antenna, gain: 13 dBi



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Online Resources

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