



# *air*Fiber<sup>®</sup> 24

24 GHz Point-to-Point  
1.4+ Gbps Radio

Model: AF-24

QUICK START GUIDE



## Introduction

Thank you for purchasing the Ubiquiti Networks® airFiber® 24 GHz Point-to-Point Radio. This Quick Start Guide is designed to guide you through installation and also includes the warranty terms.

## Package Contents



airFiber AF-24



Pole Mount Bracket



Pole Clamps  
(Qty. 2)



Cable Ties  
(Qty. 3)



Carriage Bolts  
(Qty. 4)



Flat Washers  
(Qty. 4)



Split Lock Washers  
(Qty. 4)



Hex Nuts  
(Qty. 4)



GigE PoE Adapter  
(50V, 1.2A)



Power Cord

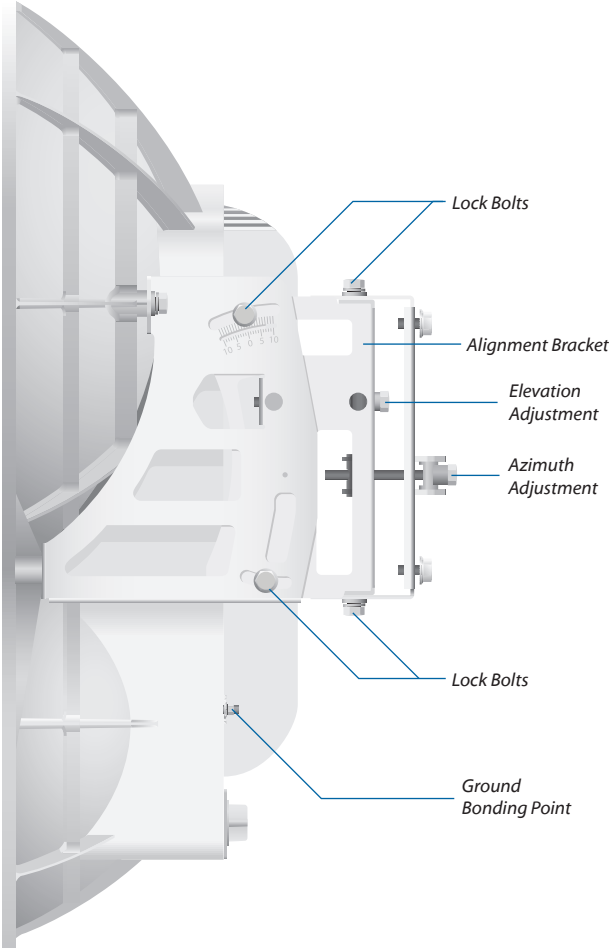


airFiber AF-24  
Quick Start Guide

**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.

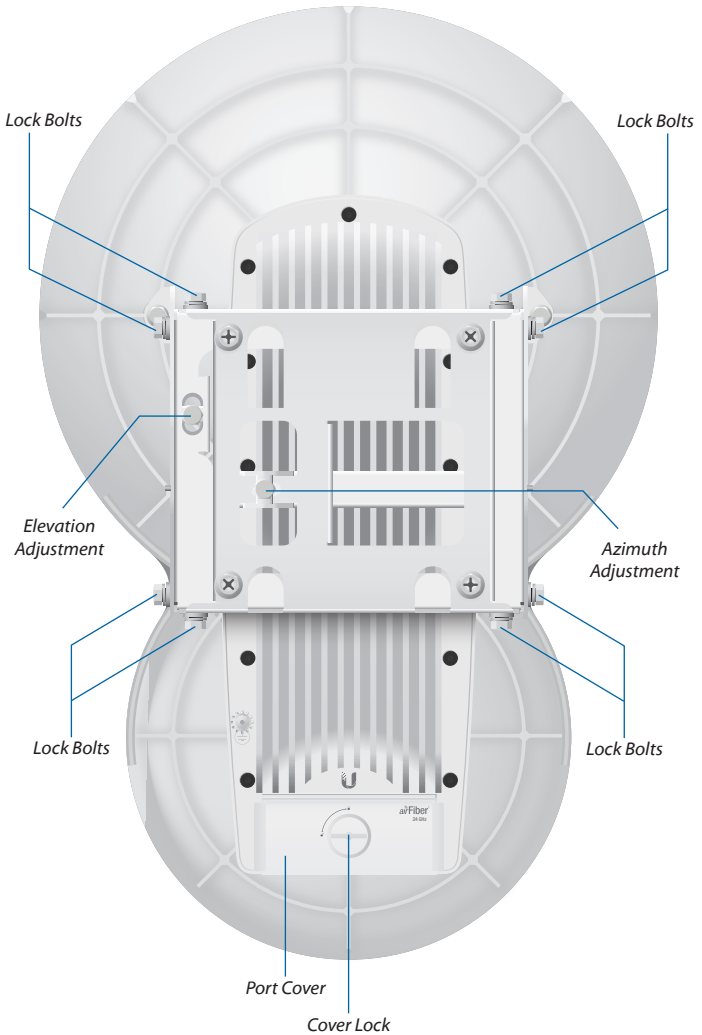
# Hardware Overview

## Side

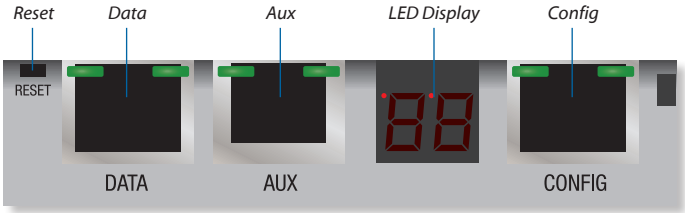




## Back

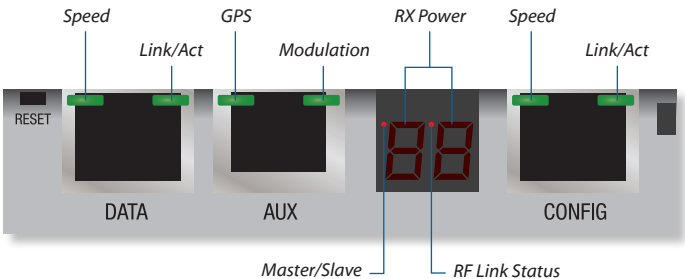


## Interfaces



Interface	Description
Reset	To reset to factory defaults, press and hold the Reset button for more than five seconds while the unit is powered on.
Data	10/100/1000 Mbps port handles all user traffic.
Aux	Port for audio tone aiming.
LED Display	Digital display used for power, status, and mode information.
Config	10/100 Mbps, secured port for configuration. By default, this is the only port that can monitor, configure, and/or update firmware.

## LEDs



	LED	State	Status	
Data	Speed	Off	10/100 Mbps	
		On	1000 Mbps	
	Link/Act	Off	No Ethernet Link	
		On	Ethernet Link Established	
		Random Flashing	Ethernet Activity	
Aux	GPS	Off	No GPS Synchronization	
		On	Operational (Strong Signal)	
		Normal Flash*	Operational (Weak Signal)	
	Modulation	Off	¼x or 1x (QPSK SISO)	
		Short Flash*	2x (QPSK MIMO)	
		Normal Flash*	4x (16QAM MIMO)	
Long Flash*		6x (64QAM MIMO)		
LED Display	RX Power (-dBm)	Number	Decodable RX Signal	
		Flashing Number	Undecodable RX Signal	
		□L	Overload Condition	
	Master/Slave	Off	Slave Mode	
		On	Master Mode	
	RF Link Status	Off	RF Off	
		Short Flash*	Syncing	
		Normal Flash*	Beaconing	
		Long Flash*	Registering	
		On	Operational	
	Config	Speed	Off	10 Mbps
			On	100 Mbps
Link/Act		Off	No Ethernet Link	
		On	Ethernet Link Established	
		Random Flashing	Ethernet Activity	

\* Short Flash (1:3 on/off cycle)  
 Normal Flash (1:1 on/off cycle)  
 Long Flash (3:1 on/off cycle)

## Installation Requirements

- 17 mm wrench
- 13 mm socket wrench or driver
- Clear line of sight between airFiber radios
- Clear view of the sky for proper GPS operation
- Mounting location with  $< 0.5^\circ$  displacement due to twist and sway under wind loading
- Mounting point:
  - At least 1 meter below the highest point on the structure
  - For tower installations, at least 3 meters below the top of the tower
- Ground wires – min. 8 AWG (10 mm<sup>2</sup>) and max. length: 1 meter. As a safety precaution, ground the airFiber radios to grounded masts, poles, towers, or grounding bars.



**WARNING: Failure to properly ground your airFiber units will void your warranty.**

- (Recommended) 2 Outdoor GigE PoE surge protectors



**Note:** For guidelines about grounding and lightning protection, follow your local electrical regulatory codes.

- Outdoor, shielded Category 5e (or above) cabling and shielded RJ-45 connectors should be used for all wired Ethernet connections. Category 6 is required for installations with long cable runs (up to 100 m).

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)

## Installation Overview

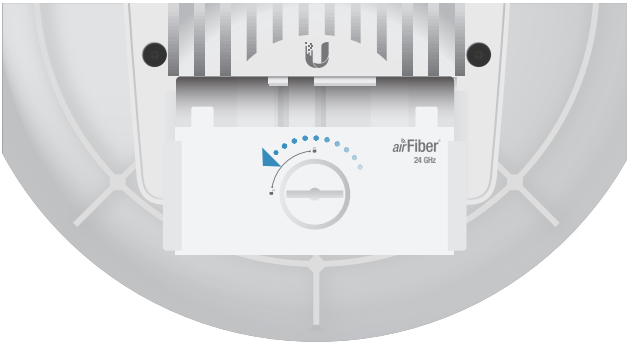
We recommend that you configure your paired airFiber radios before mounting. Below is an overview of the installation with specific details on the following pages:

- Connect Power over Ethernet to the *Data* port, and connect an Ethernet cable between your computer and the *Config* port.
- Configure device settings in the airFiber Configuration Interface.

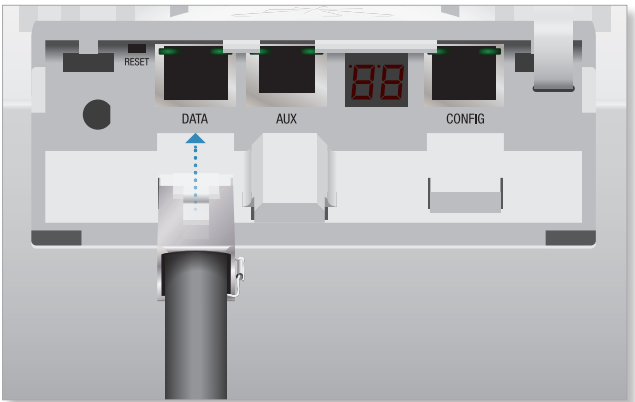
- Once configuration is complete, disconnect the cables to move the airFiber radios.
- Reconnect at the site.
- After you have mounted the airFiber radios, establish and optimize the RF link.

## Connecting Power over Ethernet

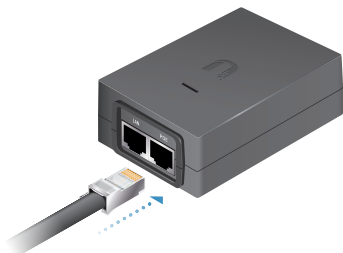
1. Turn the *Cover Lock* to the *Unlocked*  icon. Slide the *Port Cover* down to remove it.



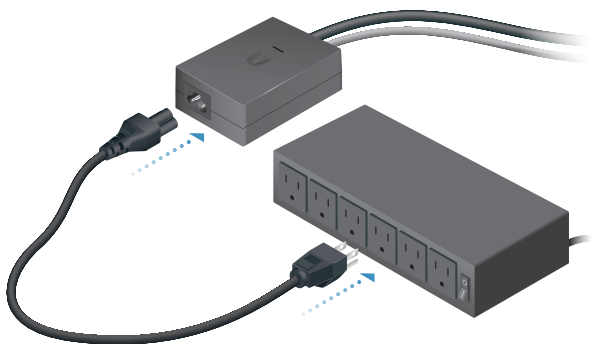
2. Connect an Ethernet cable to the *Data* port.



3. Connect the Ethernet cable from the *Data* port to the **POE** port on the *GigE PoE Adapter*.



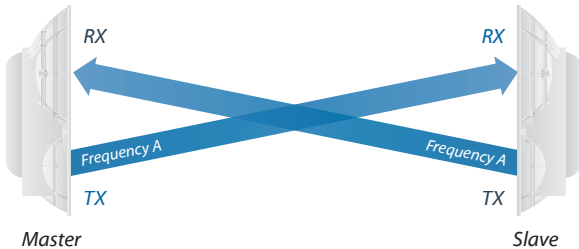
4. Connect the *Power Cord* to the *GigE PoE Adapter*, and then plug the *Power Cord* into a power outlet.



## airFiber Configuration

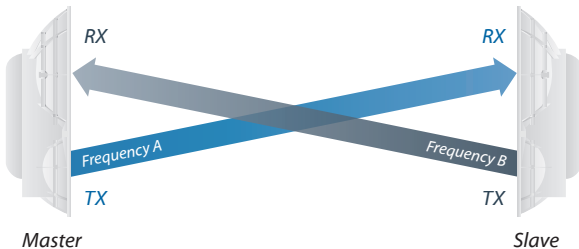
The instructions in this section explain how to access the airFiber Configuration Interface and configure the following settings:

- **Wireless Mode** Configure one airFiber AF-24 as the *Master* and the other as the *Slave*.
- **Duplex** The airFiber AF-24 supports both half-duplex and full-duplex operation. Half-duplex operation provides more frequency planning options at the cost of higher latency and throughput. Full-duplex operation provides the highest throughput and lowest latency; however, you have fewer frequency management options.
  - **Half Duplex (default)** The *TX* and *RX* *Frequencies* can be the same or different to suit local interference.



Half-Duplex Diagram

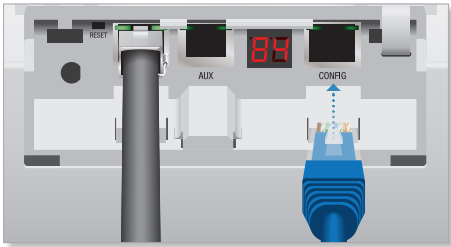
- **Full Duplex** The *TX* and *RX* *Frequencies* should be different.



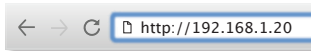
Full-Duplex Diagram

- **TX and RX Frequencies** The *TX* *Frequency* on the Master must match the *RX* *Frequency* on the Slave, and vice versa.

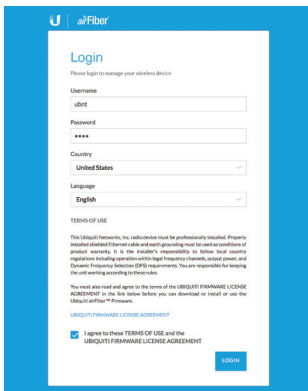
1. Connect an Ethernet cable from your computer to the *Config* port on the airFiber AF-24.



2. Configure the Ethernet adapter on your computer with a static IP address on the 192.168.1.x subnet (for example, 192.168.1.100).
3. Launch your web browser. Type **http://192.168.1.20** in the address field and 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* to use the product. Click **Login**.



**Note:** U.S. product versions are locked to the U.S. Country Code to ensure compliance with FCC regulations.



## 5. Click the **Wireless** tab.

The screenshot shows the airFiber configuration interface with the 'Wireless' tab selected. The interface is organized into several sections:

- Basic Wireless Settings:**
  - WIRELESS MODE: Master
  - LINK NAME: LINT
  - COUNTRY CODE: United States
  - DUPLEX: Full Duplex
  - OUTPUT POWER (ERP): 26 (0-30dBm)
  - MAXIMUM MODULATION RATE: R4 (336000 MIMO)
  - RX GAIN: High
  - AUTOMATIC RATE ADAPTATION: ON
  - STRICT TIMING: OFF
- Frequency Settings:**
  - TX FREQUENCY: 24.1 GHz
  - RX FREQUENCY: 24.2 GHz
- Wireless Security:**
  - KEY TYPE: HEX
  - KEY: 0000 0000 0000 0000 0000 0000 0000 0000
- Advanced Wireless Settings:**
  - GPS CLOCK SYNC: OFF

## 6. Enter the *Basic Wireless Settings*:

- For one airFiber AF-24, select **Master** from the *Wireless Mode* drop-down. For the other airFiber AF-24, keep the default, *Slave*.
- Enter a name in the *Link Name* field. This should be the same on both the Master and the Slave.
- For the *Duplex* drop-down:
  - **Half Duplex** The default mode. The *TX* and *RX Frequencies* can be the same or different to suit local interference.
  - **Full Duplex** The *TX* and *RX Frequencies* should be different.
- Select a *TX Frequency*. This must match the *RX Frequency* of your other airFiber AF-24.
- Select a *RX Frequency*. This must match the *TX Frequency* of your other airFiber AF-24.
- If needed, change the *Output Power*, *Maximum Modulation Rate*, and/or *RX Gain* settings.

7. Configure the *Wireless Security*:

- a. Select the AES Key Type, **HEX** or **ASCII**.
- b. For the Key field:

- **HEX** Enter 16 bytes (eight, 16-bit HEX values: 0-9, A-F, or a-f). You can omit zeroes and use colons, similar to the IPv6 format.



**Note:** The airFiber Configuration Interface supports IPv6 formats excluding dotted quad and "::<" (double-colon) notation.

- **ASCII** Enter a combination of alphanumeric characters (0-9, A-Z, or a-z).

8. Click **Change** and then click **Apply**.9. *In-Band Management* is enabled by default, so each airFiber radio must have a unique *IP Address*. (If the airFiber radios use the same *IP Address*, then you may lose access to the airFiber radios via the *Data* ports.) To change the network settings:

- a. Click the **Network** tab.

The screenshot shows the airFiber configuration interface with the 'Network' tab selected. The interface is divided into three main sections: 'Managed Network Settings', 'Data Port Ethernet Settings', and 'Ethernet Center Drop Settings'.

**Managed Network Settings:**

- IN-BAND MANAGEMENT:** ON (checked)
- MANAGEMENT IP ADDRESS:** DHCP (radio button) / STATIC (radio button, selected)
- IP ADDRESS:** 10.8.11.124
- NETMASK:** 255.255.252.0
- GATEWAY IP:** 10.8.8.1
- PRIMARY DNS IP:** 10.8.8.1
- SECONDARY DNS IP:** 10.8.8.1
- MANAGEMENT VLAN:** OFF
- AUTO IP ALIASING:** OFF
- REVIEW PORT:** 15888
- WIGHT SPEED:** Auto

**Data Port Ethernet Settings:**

- DATA SPEED:** Auto
- FLOW CONTROL:** OFF
- MULTICAST FILTER:** ON (checked)

**Ethernet Center Drop Settings:**

- CARRIER DROP OPERATION:** Disabled
- PULSE DURATION:** 3 ms
- BLOCK DATA AFTER PULSE:** OFF
- ENABLE ETHERNET IF NO SESSION:** OFF
- WAIT FOR FIRST SESSION:** OFF
- FIRST SESSION VALIDATION TIMER:** 0 ms
- TX CAPACITY LOW THRESHOLD:** 0 Mbps
- TX CAPACITY HIGH THRESHOLD:** 0 Mbps
- RX CAPACITY LOW THRESHOLD:** 0 Mbps
- RX CAPACITY HIGH THRESHOLD:** 0 Mbps
- LOW THRESHOLD TIMER:** 0 ms
- HIGH THRESHOLD TIMER:** 0 ms

- b. Change the *IP Address*, *Netmask*, and other settings to make them compatible with your network.

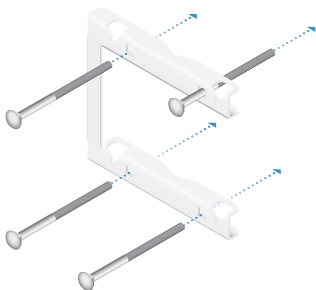
- c. Click **Change** and then click **Apply**.

Repeat the instructions in the *airFiber Configuration* section on your other airFiber radio. After you have configured the airFiber radios, disconnect them and move them to your installation site.

## Hardware Installation

To install the airFiber AF-24:

1. Insert the four *Carriage Bolts* into the *Pole Mount Bracket*.

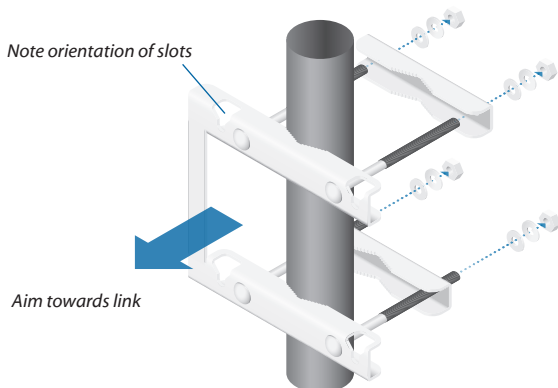


2. Attach the *Pole Mount Bracket* to a pole.

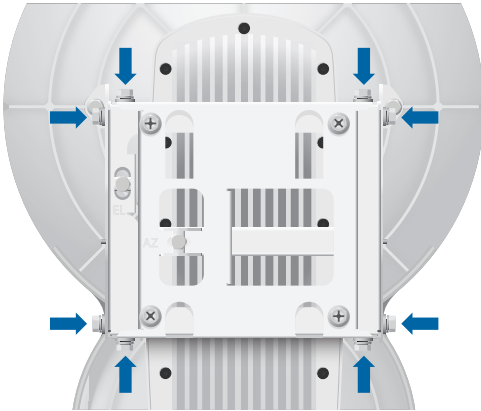


**Note:** The mounting assembly can accommodate a  $\text{\O} 51 - 101 \text{ mm}$  (2.0" - 4.0") pole.

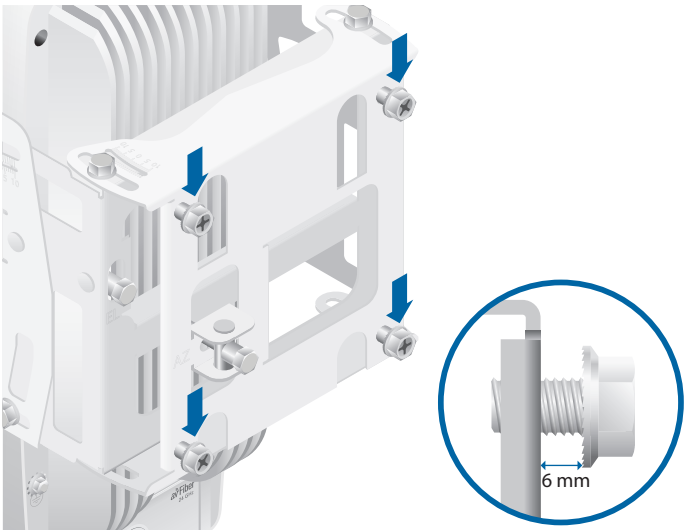
- a. Orient the *Pole Mount Bracket* around the pole so it is aimed in the direction of the other airFiber AF-24.
- b. Insert the *Carriage Bolts* into the *Pole Clamps*.
- c. Secure the clamps with the *Flat Washers*, *Split Lock Washers*, and *Hex Nuts*.



- Loosen, but do NOT remove the eight *Lock Bolts* located on the *Alignment Bracket*.

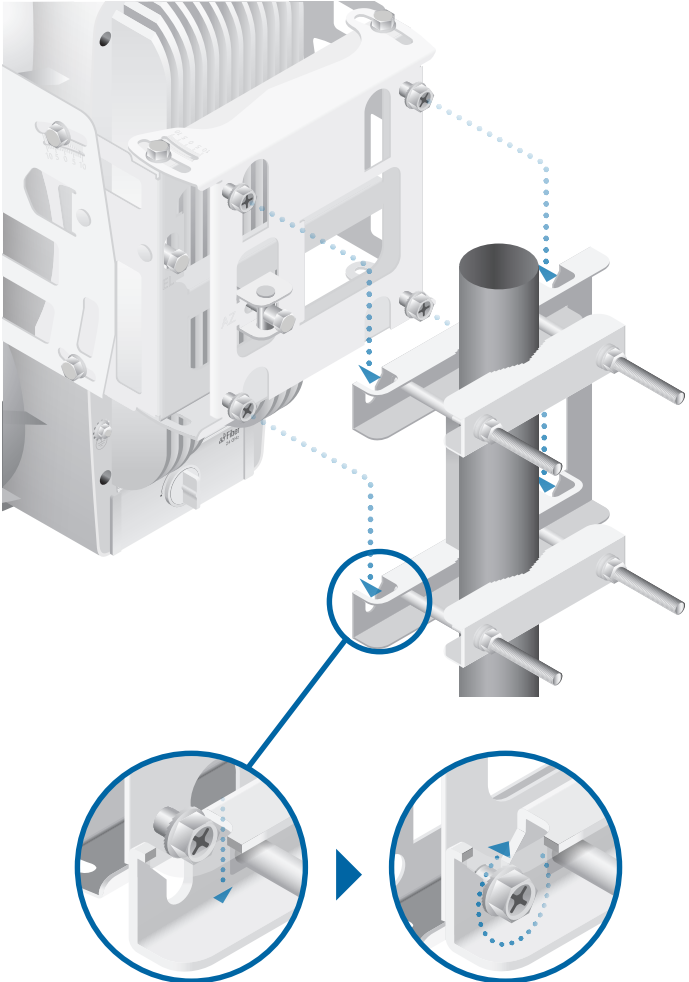


- Ensure that there is a 6 mm gap between the head of each *Serrated Flange Screw* and the *Alignment Bracket*.



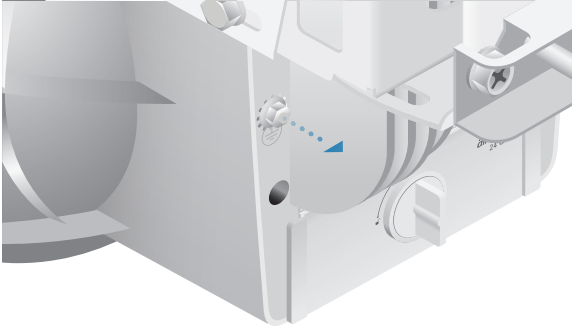
- Lift the airFiber AF-24 and align the four *Serrated Flange Screws* with the slots on the *Pole Mount Bracket*. Seat the screws in the slots. Securely tighten the screws.

**!** **WARNING:** To prevent injury, ensure that all four screws are seated and fully tightened.

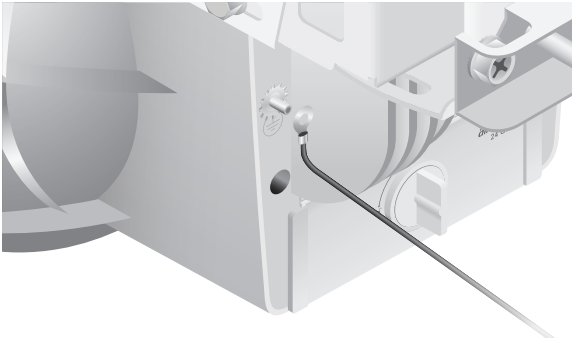


6. Attach a ground wire:

- a. Remove the nut from the *Ground Bonding Point*.



- b. Attach a ground wire (min. 8 AWG or 10 mm<sup>2</sup>) to the lug and replace the nut to secure the wire.



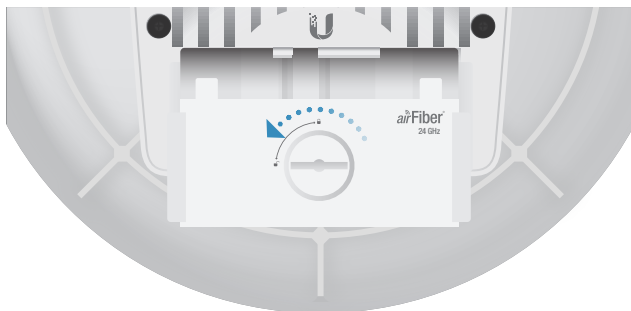
- c. Secure the other end of the ground wire to a grounded mast, pole, tower, or grounding bar.

**!** **WARNING:** Failure to properly ground your airFiber units will void your warranty.

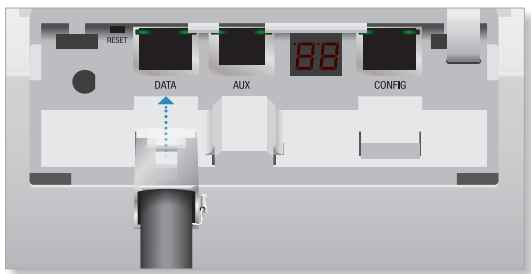
**📄** **Note:** The ground wire should be as short as possible and no longer than one meter in length.

## Connecting Ethernet

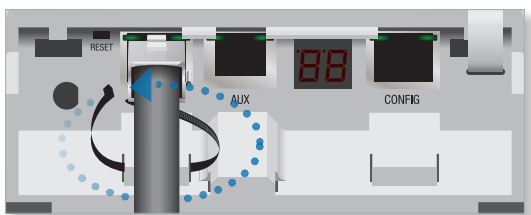
1. Turn the *Cover Lock* to the *Unlocked*  icon. Slide the *Port Cover* down to remove it.



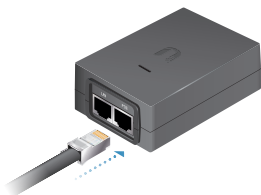
2. Connect a TOUGH Cable or other outdoor, shielded CAT5e/6 cable to the *Data* port.



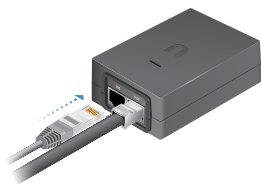
3. Create a strain relief for the Ethernet cable by feeding a *Cable Tie* through the tie slot under the cable. Then wrap the *Cable Tie* around the cable and tighten.



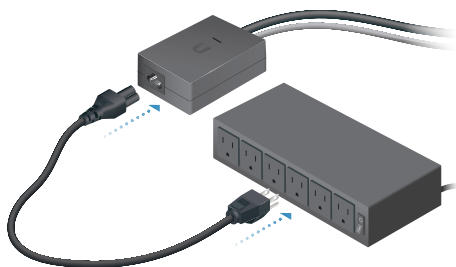
4. Connect the Ethernet cable from the *Data* port to the **POE** port on the *GigE PoE Adapter*.



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



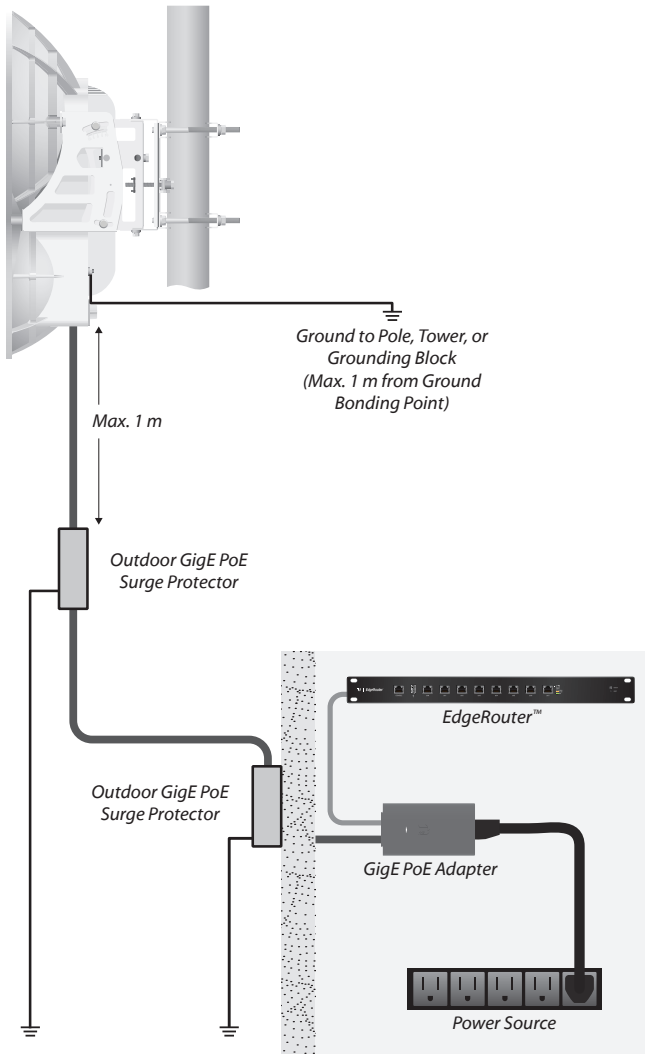
6. Connect the *Power Cord* to the *PoE Adapter*, and then plug the *Power Cord* into a power outlet.



**Note:** For added protection, we recommend installing two GigE PoE surge protectors. Install the first surge protector within one meter of the airFiber *Data* port, and install the second surge protector at the ingress point of the location housing the wired network equipment.



Below is a diagram of a finished installation with recommended surge protectors installed.



## Alignment

### Tips

- Fine-tuning is best achieved by a pair of installers with a dedicated, two-way communication link: one installer makes adjustments on one airFiber radio while the other installer reports the received signal level at the other airFiber radio. Fine-tuning (see *Fine-Tuning the Link*) is necessary because the main lobe of the receiver is narrower than that of the transmitter, in both azimuth and elevation.
- To accurately align the airFiber radios for best performance, you **MUST** align only one end of the link at a time.
- For more convenient alignment, you may consider using long-range scopes (not included) temporarily attached to your airFiber radios.
- You may need to use additional hardware to compensate for issues such as the improper orientation of a mounting pole or significant elevation differences between the airFiber radios.

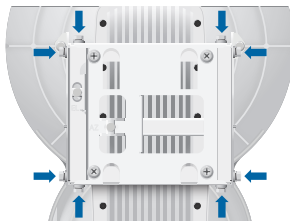
### Establishing a Preliminary Link

Adjust the positions of the *Master* and the *Slave* to establish a preliminary link. This requires the *Master* and *Slave* to be within a few degrees of the line of sight between the airFiber radios.



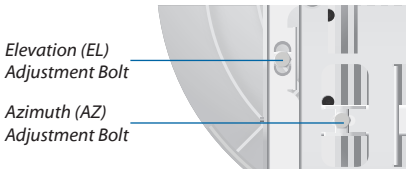
**Note:** The *Master* must be aimed first at the *Slave* because the *Slave* does not transmit any RF signal until it detects transmissions from the *Master*.

1. For the *Master* and *Slave*, ensure the eight *Lock Bolts* on the *Alignment Bracket* are sufficiently loose by spinning each washer by hand.

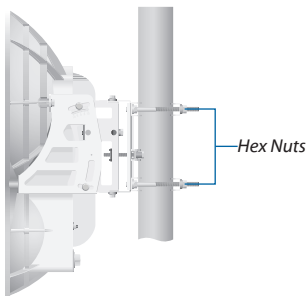


**WARNING:** All *Lock Bolts* **MUST** be loose to avoid damage to the airFiber housing.

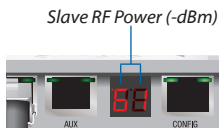
2. For the *Master* and *Slave*, ensure the *Azimuth (AZ)* and *Elevation (EL)* Adjustment Bolts are in the middle of their adjustment ranges.



3. **Master** Aim the *Master* at the *Slave*. If necessary, adjust the *Master's* position on the pole:
  - a. Loosen the *Hex Nuts*.
  - b. Adjust the *Pole Mount Bracket* and *Pole Clamps*.
  - c. Tighten the *Hex Nuts*.

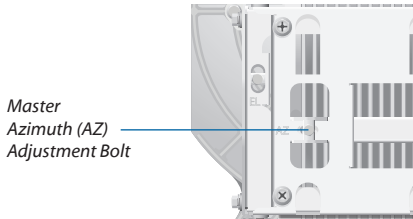


4. **Slave** Aim the *Slave* at the *Master* to achieve the strongest received signal level on the *Slave's* numeric LED Display, which is located next to the *Config* port. If necessary, adjust the *Slave's* position on the pole.

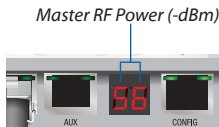
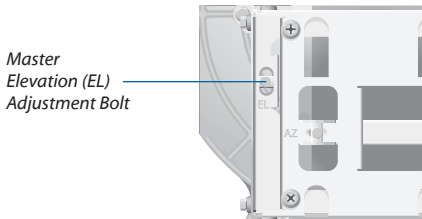


**Note:** Values on the LED Display are displayed in negative (-) dBm. For example, 61 represents -61 dBm, which is stronger than -72 dBm.

5. **Master** Adjust the azimuth and elevation of the *Master* until the strongest received signal level is displayed on the LED Display of the *Master*.
- a. Sweep the *Azimuth (AZ) Adjustment Bolt* of the *Master* through its adjustment range.




- b. Sweep the *Elevation (EL) Adjustment Bolt* of the *Master* through its adjustment range.



**Note:** If the LED Display indicates an overload condition **EE**, refer to the airFiber AF-24 User Guide at: [www.ubnt.com/download/airfiber](http://www.ubnt.com/download/airfiber) for more information.

## Fine-Tuning the Link

The *Azimuth (AZ)* and *Elevation (EL)* Adjustment Bolts of the *Alignment Bracket* adjust the azimuth and elevation within a range of  $\pm 10^\circ$ . For accurate alignment, make adjustments on one end of the link while the other installer reports the received signal level at the other end of the link. Do NOT make simultaneous adjustments on the *Master* and *Slave*.

1. **Slave** Adjust the azimuth and elevation of the *Slave* until the other installer sees the strongest received signal level displayed on the LED Display of the *Master*.
2. **Master** Adjust the azimuth and elevation of the *Master* until the other installer sees the strongest received signal level displayed on the LED Display of the *Slave*.
3. Repeat steps 1 and 2 until you achieve a symmetric link, with the received signal levels within 1 dB of each other. This ensures the best possible data rate between the airFiber radios.
4. Lock the alignment on both airFiber radios by tightening all eight *Lock Bolts* on the *Alignment Bracket*.
5. Observe the LED Display of each airFiber AF-24 to ensure that the value remains constant while tightening the *Lock Bolts*. If the LED value changes during the locking process, loosen the *Lock Bolts*, finalize the alignment of each airFiber AF-24 again, and retighten the *Lock Bolts*.
6. For each airFiber AF-24, attach the *Port Cover* and turn the *Cover Lock* to the *Locked*  icon.



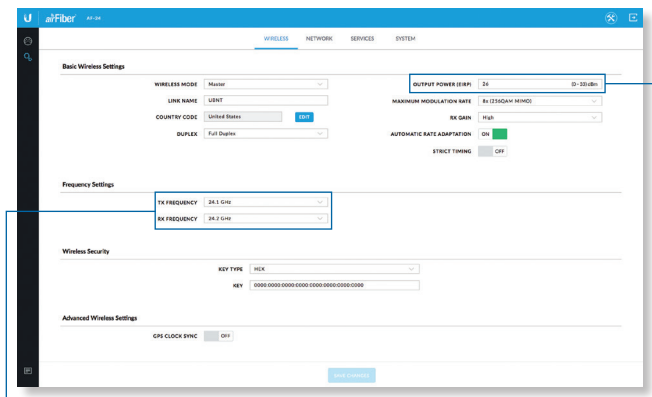
There are three methods for determining the received signal level:

- LED Display (described above)
- airFiber Configuration Interface
- Audio tone (optional equipment required)

Refer to the airFiber AF-24 User Guide for instructions on the airFiber Configuration Interface and audio tone methods. The User Guide is available at: [www.ubnt.com/download/airfiber](http://www.ubnt.com/download/airfiber)

## 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 *TX Frequency*, *RX Frequency*, and *Output Power* fields are provided to the professional installer to assist in meeting regulatory requirements.

## Specifications

airFiber AF-24	
Dimensions	649 x 426 x 303 mm (25.55 x 16.77 x 11.93")
Weight	10.5 kg (23.15 lb) Mount Included
Operating Frequency	24.05 – 24.25 GHz
Power Supply	50V, 1.2A PoE GigE Adapter (Included)
Power Method	Passive Power over Ethernet (42-58VDC)
Max Power Consumption	< 50W
Networking Interface Data Port Configuration Port	(1) 10/100/1000 Ethernet Port (1) 10/100 Ethernet Port
Mounting	Pole Mount Kit (Included)
Wind Loading	306.9 N @ 200 km/hr (69 lbf @ 100 mph)
Operating Temperature	-40 to 55° C (-40 to 131° F)
Certifications	CE, FCC, IC

Receive Sensitivity			
Modulation	Sensitivity	FDD Capacity*	TDD Capacity*
64QAM	-66 dBm	1500 Mbps	760 Mbps
16QAM	-72 dBm	1000 Mbps	507 Mbps
QPSK MIMO	-78 dBm	500 Mbps	253 Mbps
QPSK SISO	-80 dBm	250 Mbps	127 Mbps
¼x QPSK SISO	-87 dBm	62.5 Mbps	31.7 Mbps

\* FDD = (2) 100 MHz channels and TDD = (1) 100 MHz channel

## 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.



**WARNING: Failure to properly ground your airFiber units will void your warranty.** (Please follow the instructions on page 16 for installation of the ground wires.)

## 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](http://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-AF24 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.

Antenna Information: Dish antenna, TX Gain: 33 dBi, RX Gain: 38 dBi

## 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-AF24) has been approved by ISED 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.

Antenna Information: Dish antenna, TX Gain: 33 dBi, RX Gain: 38 dBi

### 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-AF24) a été approuvé par ISDE 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.

Informations d'antenne : Antenne parabolique, Gain TX : 33 dBi, Gain RX : 38 dBi

## RF Exposure Warning

The antennas used for this transmitter must be installed to provide a separation distance of at least 107 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 107 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



AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU
IE	IT	LV	LT	LU	MT	NL	PL	PT	RO	SE	SI	SK	UK

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

Die Europäische Richtlinie 2012/19/EU verlangt, dass technische Ausrüstung, die direkt am Gerät und/oder an der Verpackung mit diesem Symbol versehen ist, nicht zusammen mit unsortiertem Gemeindeabfall entsorgt werden darf. Das Symbol weist darauf hin, dass das Produkt von regulärem Haushaltsmüll getrennt entsorgt werden sollte. Es liegt in Ihrer Verantwortung, dieses Gerät und andere elektrische und elektronische Geräte über die dafür zuständigen und von der Regierung oder örtlichen Behörden dazu bestimmten Sammelstellen zu entsorgen. Ordnungsgemäßes Entsorgen und Recyceln trägt dazu bei, potentielle negative Folgen für Umwelt und die menschliche Gesundheit zu vermeiden. Wenn Sie weitere Informationen zur Entsorgung Ihrer Altgeräte benötigen, wenden Sie sich bitte an die örtlichen Behörden oder städtischen Entsorgungsdienste oder an den Händler, bei dem Sie das Produkt erworben haben.

### 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.



## Declaration of Conformity

**Български [Bulgarian]** С настоящото UBIQUITI NETWORKS декларира, че този тип радиосъоръжение AF-24 е в съответствие с Директива 2014/53/EC. Цялостният текст на ЕС декларацията за съответствие може да се намери на следния интернет адрес: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Hrvatski [Croatian]** UBIQUITI NETWORKS ovime izjavljuje da je radijska oprema tipa AF-24 u skladu s Direktivom 2014/53/EU. Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Čeština [Czech]** Tímto UBIQUITI NETWORKS prohlašuje, že typ rádiového zařízení AF-24 je v souladu se směrnicí 2014/53/EU. Úplné znění EU prohlášení o shodě je k dispozici na této internetové adrese: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Dansk [Danish]** Hermed erklærer UBIQUITI NETWORKS, at radioudstyretypen AF-24 er i overensstemmelse med direktiv 2014/53/EU. EU-overensstemmelseserklæringens fulde tekst kan findes på følgende internetadresse: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Nederlands [Dutch]** Hierbij verklaar ik, UBIQUITI NETWORKS, dat het type radioapparatuur AF-24 conform is met Richtlijn 2014/53/EU. De volledige tekst van de EU-conformiteitsverklaring kan worden geraadpleegd op het volgende internetadres: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**English** Hereby, UBIQUITI NETWORKS declares that the radio equipment type AF-24 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](http://www.ubnt.com/compliance)**

**Eesti keel [Estonian]** Käesolevaga deklareerib UBIQUITI NETWORKS, et käesolev raadioseadme tüüp AF-24 vastab direktiivi 2014/53/EL nõuetele. ELi vastavusdeklaratsiooni täielik tekst on kättesaadav järgmisel internetiaadressil: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Suomi [Finnish]** UBIQUITI NETWORKS vakuuttaa, että radiolaitetyyppi AF-24 on direktiivin 2014/53/EU mukainen. EU-vaatimustenmukaisuusvakuutuksen täysimittainen teksti on saatavilla seuraavassa internetosoitteessa: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Français [French]** Le soussigné, UBIQUITI NETWORKS, déclare que l'équipement radioélectrique du type AF-24 est conforme à la directive 2014/53/UE. Le texte complet de la déclaration UE de conformité est disponible à l'adresse internet suivante: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Deutsch [German]** Hiermit erklärt UBIQUITI NETWORKS, dass der Funkanlagentyp AF-24 der Richtlinie 2014/53/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Ελληνικά [Greek]** Με την παρούσα ο/η UBIQUITI NETWORKS, δηλώνει ότι ο ραδιοεξοπλισμός AF-24 πληροί την οδηγία 2014/53/EE. Το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Magyar [Hungarian]** UBIQUITI NETWORKS igazolja, hogy a AF-24 típusú rádióberendezés megfelel a 2014/53/EU irányelvnek. Az EU-megfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Íslenska [Icelandic]** Hér með lýsir UBIQUITI NETWORKS yfir því að AF-24 er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 2014/53/EU. Fullur texti ESB samræmisýfirlýsing er að finna á eftirfarandi netfangi: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Italiano [Italian]** Il fabbricante, UBIQUITI NETWORKS, dichiara che il tipo di apparecchiatura radio AF-24 è conforme alla direttiva 2014/53/UE. Il testo completo della dichiarazione di conformità UE è disponibile al seguente indirizzo Internet: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Latviešu valoda [Latvian]** Ar šo UBIQUITI NETWORKS deklarē, ka radioiekārta AF-24 atbilst Direktīvai 2014/53/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Lietuvių kalba [Lithuanian]** Aš, UBIQUITI NETWORKS, patvirtinu, kad radijo įrenginių tipas AF-24 atitinka Direktyvą 2014/53/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo interneto adresu: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Malti [Maltese]** B'dan, UBIQUITI NETWORKS, niddikjara li dan it-tip ta' tagħmir tar-radju AF-24 huwa konformi mad-Direttiva 2014/53/UE. Id-dikjarazzjoni tal-konformità tista' tiġi kkonsultata minn **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Norsk [Norwegian]** UBIQUITI NETWORKS erklærer herved at utstyret AF-24 er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 2014/53/EU. Den fulle teksten til EU-samsvarserklæringen er tilgjengelig på følgende internetadresse: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Polski [Polish]** UBIQUITI NETWORKS niniejszym oświadczam, że typ urządzenia radiowego AF-24 jest zgodny z dyrektywą 2014/53/UE. Pełny tekst deklaracji zgodności UE jest dostępny pod następującym adresem internetowym: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Português [Portuguese]** O(a) abaixo assinado(a) UBIQUITI NETWORKS declara que o presente tipo de equipamento de rádio AF-24 está em conformidade com a Diretiva 2014/53/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Română [Romanian]** Prin prezenta, UBIQUITI NETWORKS declară că tipul de echipamente radio AF-24 este în conformitate cu Directiva 2014/53/UE. Textul integral al declarației UE de conformitate este disponibil la următoarea adresă internet: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Slovenčina [Slovak]** UBIQUITI NETWORKS týmto vyhlasuje, že rádiové zariadenie typu AF-24 je v súlade so smernicou 2014/53/EÚ. Úplné EÚ vyhlásenie o zhode je k dispozícii na tejto internetovej adrese: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Slovenščina [Slovenian]** UBIQUITI NETWORKS potrjuje, da je tip radijske opreme AF-24 skladen z Direktivo 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Español [Spanish]** Por la presente, UBIQUITI NETWORKS declara que el tipo de equipo radioeléctrico AF-24 es conforme con la Directiva 2014/53/UE. El texto completo de la declaración UE de conformidad está disponible en la dirección Internet siguiente: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**

**Svenska [Swedish]** Härmed försäkras UBIQUITI NETWORKS att denna typ av radioutrustning AF-24 överensstämmer med direktiv 2014/53/EU. Den fullständiga texten till EU-försäkran om överensstämmelse finns på följande webbadress: **[www.ubnt.com/compliance](http://www.ubnt.com/compliance)**





[www.ubnt.com](http://www.ubnt.com)

Ubiquiti Networks, Inc.  
685 Third Avenue, 27th Floor  
New York, NY 10017  
USA

Support	<a href="http://help.ubnt.com">help.ubnt.com</a>
Community	<a href="http://community.ubnt.com">community.ubnt.com</a>
Downloads	<a href="http://downloads.ubnt.com">downloads.ubnt.com</a>

© 2012-2018 Ubiquiti Networks, Inc. All rights reserved. Ubiquiti, Ubiquiti Networks, the Ubiquiti U logo, the Ubiquiti beam logo, airFiber, EdgeRouter, and TOUGHCable are trademarks or registered trademarks of Ubiquiti Networks, Inc. in the United States and in other countries. All other trademarks are the property of their respective owners.



640-00023-06