airFiber® NxN

Scalable airFiber®
MIMO Multiplexer

Models: AF-MPx4, AF-MPx8

QUICK START GUIDE

Introduction

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

Package Contents

or

AF-MPx4
airFiber NxN Multiplexer

AF-MPx8
airFiber NxN Multiplexer

4x4 Radio Bracket

8x8 Radio Bracket*

Protective Shrouds
(Left and Right)

M4x12 Screws
(Qty. 2)

M3x8 Screws*
(Qty. 4)

Quick Start Guide

* Only included with the AF-MPx8.

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.

airFiber X Compatibility

The airFiber NxN is designed for use with airFiber 5X radios, (model AF-5X) and 5 GHz airFiber X or RocketDish™ antennas.

Note: The airFiber X Antenna OMT Conversion Kit (AF-5G-OMT-S45) is highly recommended when using a RocketDish for proper fitting and improved frequency isolation.

Installation Requirements

- (2) airFiber 5X radios for AF-MPx4
- (4) airFiber 5X radios for AF-MPx8
- airFiber X or RocketDish antenna
- Clear view of the sky for proper GPS operation
- Ground wires – min. 10 AWG (5 mm²) and max. length: 1 m. As a safety precaution, ground the airFiber radios to grounded masts, poles, towers, or grounding bars.

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

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

- Outdoor, shielded Category 6 (or above) cabling and shielded RJ-45 connectors are required for all wired Ethernet connections.

Hardware Overview

airFiber NxN Multiplexer

Chain 0

Chain 1

airFiber 8x8

A0 A1 B0 B1 C0 C1 D0 D1

RF Cables

(AF-MPx8 Shown)
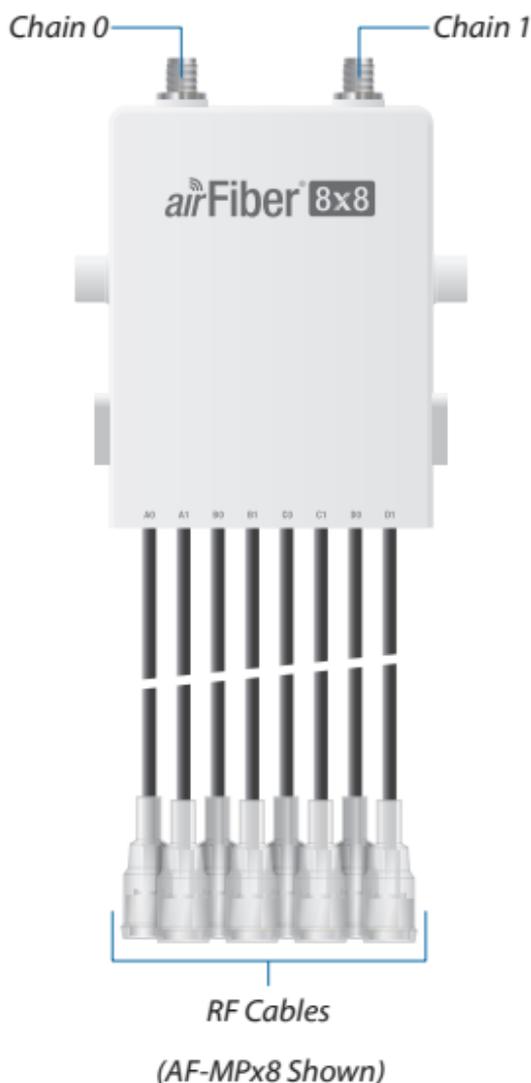
Chain 0 Connect the antenna RF +45° to this connector.

Chain 1 Connect the antenna RF -45° to this connector.

RF Cables Connect each *RF Cable* pair to the corresponding RF connection chain on each airFiber 5X radio. For example, connect cable **A0** to **Chain 0**, and cable **A1** to **Chain 1**.

Configure the airFiber 5X Radio

Note: The airFiber 5X radios must be running airOS®F v3.2.1 or newer. The latest firmware is available at: **downloads.ubnt.com/airfiber**

Each airFiber 5X radio must be preconfigured for use with the airFiber NxN before installing them at the site. Configuration details are available in the airFiber X User Guide, available at: **downloads.ubnt.com/airfiber**

Enable airFiber NxN support on each radio:

1. Log into the airOS F Configuration Interface.
2. Click the **Wireless** tab.
3. Enter the additional *Cable Loss* value (dB):
   a. **4.1** for the AF-MPx4, or
   b. **7.2** for the AF-MPx8
4. For the *NxN Radio* setting, select **Enable**.

5. Click **Change**, and then click **Apply**.

Hardware Installation

The following installation shows the AF-MPx8. For the AF-MPx4 installation, only the mounting and connecting of two airFiber 5X radios apply.

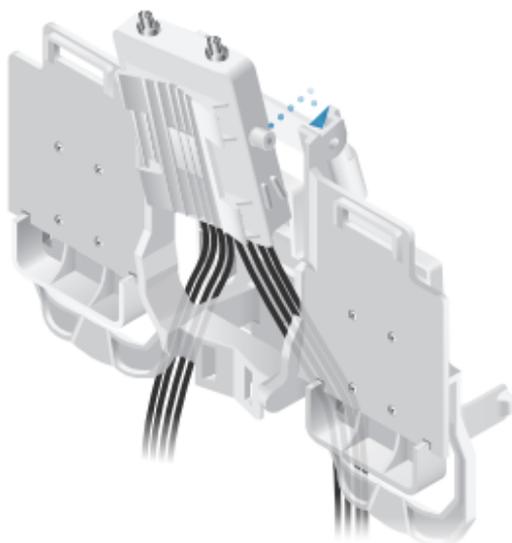1. (For AF-MPx8 only) Attach the *8x8 Radio Bracket* to the *4x4 Radio Bracket* using four *M3x8 Screws*.
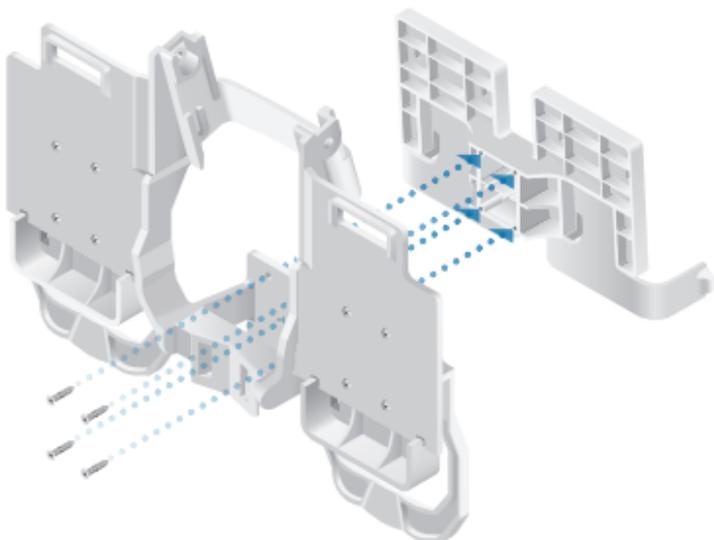
2. Seat the *airFiber NxN Multiplexer* into the *4x4 Radio Bracket* either at (a) a 15° angle or (b) vertically:

a. For most antenna models, the *airFiber NxN Multiplexer* should be installed at a 15° angle. Insert the *airFiber NxN Multiplexer* from behind the *4x4 Radio Bracket* and slide the *15° Angle Tabs* into the slots on the bracket.

15° Angle Tab
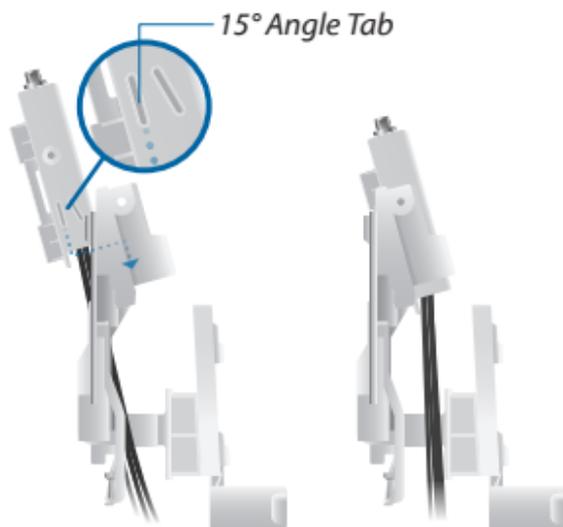
b. For other antenna configurations that require the airFiber NxN assembly to be mounted to a pole, the *airFiber NxN Multiplexer* must be installed vertically. Insert the *airFiber NxN Multiplexer* from behind the *4x4 Radio Bracket* and slide the *Vertical Tabs* into the slots on the bracket.

Vertical Tab
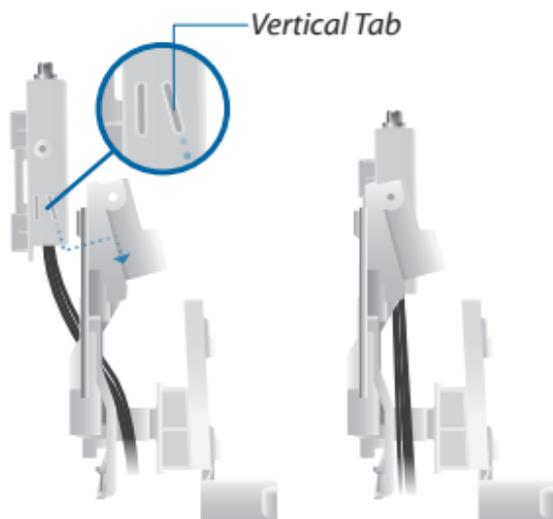
3. Secure the *airFiber NxN Multiplexer* to the *4x4 Radio Bracket* using two *M4x12 Screws.*
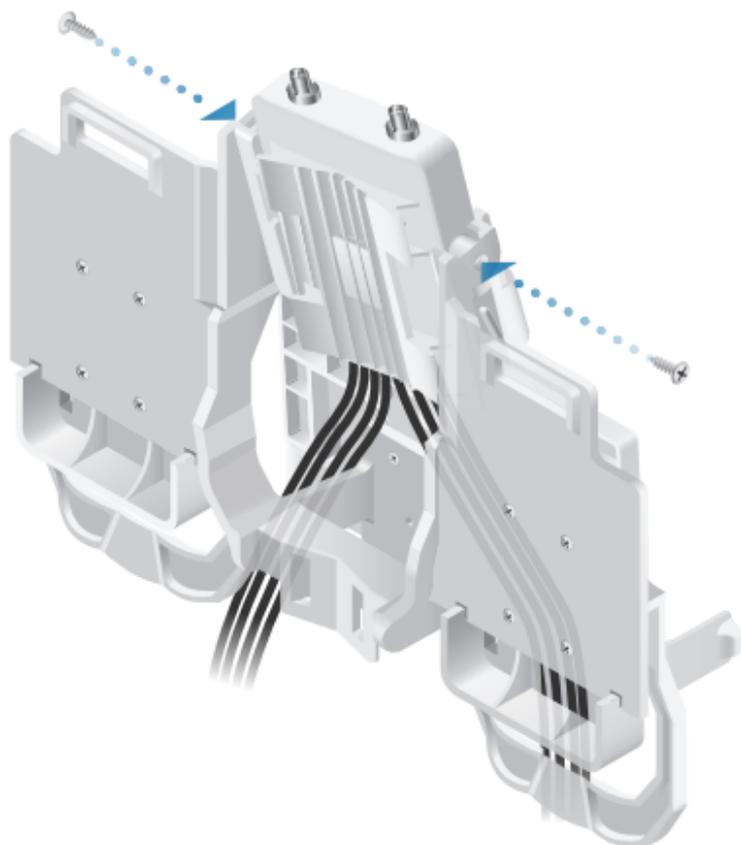
Note: Ensure the airFiber 5X radios are preconfigured and the ground wires are installed as outlined in the radio's Quick Start Guide before mounting the radios.

4. Mount the airFiber 5X radios to the *4x4 Radio Bracket*:

    a. Align the mounting tabs on the back of the radio with the mounting bracket.

    b. Slide the radio down to lock it into place.

5. Mount the airFiber 5X radios to the *8x8 Radio Bracket*:

   a. Align the mounting tabs on the back of the radio with the mounting bracket.

   b. Slide the radio down to lock it into place.

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6. Connect the *RF Cables* to the airFiber 5X radios. Connect each *RF Cable* pair to the corresponding RF connection chain on each radio. For example, connect cable **A0** to **Chain 0**, and cable **A1** to **Chain 1**.

7. Attach the airFiber NxN assembly to the airFiber X or RocketDish antenna:

   a. Align the mounting tabs on the back of the *airFiber NxN Multiplexer* with the mounting bracket.

   b. Slide the *airFiber NxN Multiplexer* down to lock it into place on the bracket.

> **Note:** The airFiber NxN assembly may be pole-mounted if it cannot be attached to the antenna. See the *Pole-Mounting* section for details.

8. Connect the RF cables from the antenna to the RF connectors on the *airFiber NxN Multiplexer*. Connect +45° to *Chain 0* and -45° to *Chain 1*.

9. Attach the GPS antennas to each of the airFiber 5X radios.
10. Mount the GPS antennas in a location that has a clear view of the sky, and is above and as far away from the radios as possible.

11. Attach the *Protective Shrouds*:

    a. Insert the *Protective Shroud's* attachment tab between the airFiber 5X radio and the *4x4 Radio Bracket*.

    b. Push the *Protective Shroud* down until the attachment tab locks into place.

12. Secure the grounding wire from each radio to a grounded mast, pole, tower, or grounding bar.

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

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

Pole-Mounting

1. Ensure the *airFiber NxN Multiplexer* is installed vertically in the *4x4 Radio Bracket*.

2. Mount the airFiber NxN assembly to the pole using two metal straps (not included):

   a. Insert a metal strap through each mounting bracket on the back of the *airFiber NxN Multiplexer* and *4x4 Radio Bracket*.

   b. Secure both staps around the pole.
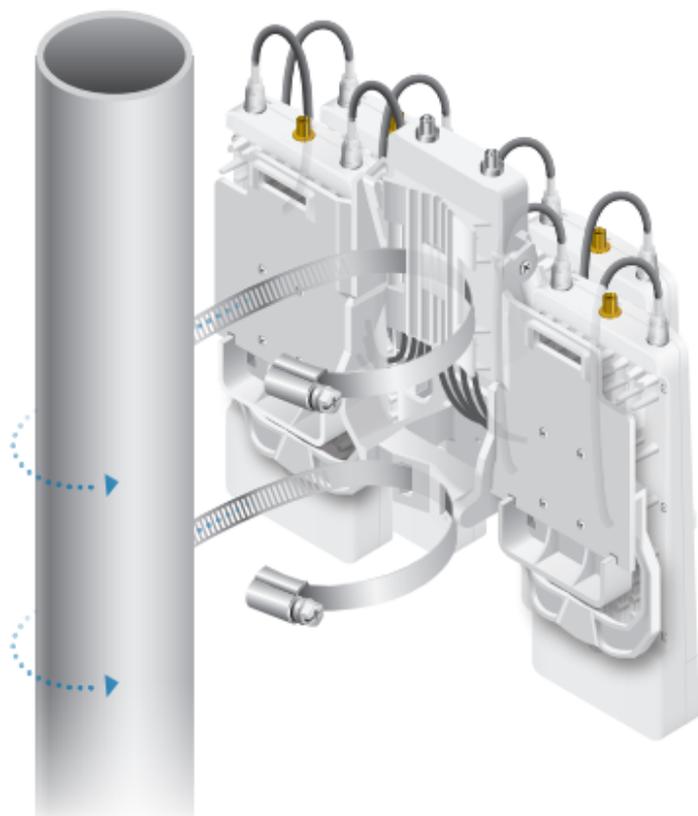
3. Connect the RF cables from the antenna to the RF connectors on the *airFiber NxN Multiplexer*. Connect +45° to *Chain 0* and -45° to *Chain 1*.

Specifications

AF-MPx4	
Dimensions	197.5 x 240.9 x 103.2 mm (7.78 x 9.48 x 4.06")
Weight	0.4 kg (0.8 lb)
RF Connectors	(2) RP-SMA Weatherproof (CH0, CH1)
	(4) RP-SMA Weatherproof (A0, A1, B0, B1)
Cable Loss	4.1 dB
Supported airFiber X Radio	AF-5X
Multiplex MIMO	2 x (2x2)
Mounting	airFiber X/Rocket Mount Compatible

AF-MPx8	
Dimensions	210.5 x 240.9 x 109 mm (8.29 x 9.48 x 4.29")
Weight	0.45 kg (1.0 lb)
RF Connectors	(2) RP-SMA Weatherproof (CH0, CH1)
	(8) RP-SMA Weatherproof (A0, A1, B0, B1, C0, C1, D0, D1)
Cable Loss	7.2 dB
Supported airFiber X Radio	AF-5X
Multiplex MIMO	4 x (2x2)
Mounting	airFiber X/Rocket Mount Compatible

Limited Warranty

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**.

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English Hereby, UBIQUITI NETWORKS, declares that this UBIQUITI NETWORKS device, is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Eesti [Estonian] Käesolevaga UBIQUITI NETWORKS kinnitab, et antud UBIQUITI NETWORKS seade, on vastavus olulistele nõuetele ja teistele asjakohastele sätetele direktiivi 1999/5/EÜ.

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Français [French] Par la présente UBIQUITI NETWORKS déclare que l'appareil UBIQUITI NETWORKS, est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.

Deutsch [German] Hiermit erklärt UBIQUITI NETWORKS, dass sich dieses UBIQUITI NETWORKS Gerät, in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet.

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Íslenska [Icelandic] Hér, UBIQUITI NETWORKS, því yfir að þetta UBIQUITI NETWORKS tæki er í samræmi við grunnkröfur og önnur viðeigandi ákvæði tilskipun 1999/5/EC.

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Latviski [Latvian] Ar šo, UBIQUITI NETWORKS, deklarē, ka šī UBIQUITI NETWORKS ierīce, ir saskaņā ar būtiskajām prasībām un citiem attiecīgiem noteikumiem Direktīvā 1999/5/EK.

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Español [Spanish]	Por medio de la presente UBIQUITI NETWORKS declara que este dispositivo UBIQUITI NETWORKS, cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
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Português [Portuguese]	UBIQUITI NETWORKS declara que este dispositivo UBIQUITI NETWORKS, está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Română [Romanian]	Prin prezenta, UBIQUITI NETWORKS declară că acest dispozitiv UBIQUITI NETWORKS este în conformitate cu cerinţele esenţiale şi alte prevederi relevante ale Directivei 1999/5/CE.

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