TP-Link EAP650

TP-Link EAP650 Ultra-Slim Wireless Access Point User Manual

Model: EAP650 | Brand: TP-Link

Product Overview

The TP-Link EAP650 is an AX3000 Ceiling Mount Wi-Fi 6 Access Point designed for high-performance wireless networking. It features an ultra-slim design, supports the latest Wi-Fi 6 technology, and offers flexible deployment options including Power over Ethernet (PoE+).



Figure 1: Top view of the TP-Link EAP650 Access Point with its sleek, circular design and central TP-Link logo.

What's in the Box

- EAP650 Access Point
- Power Adapter (12V/1.5A DC)
- Ceiling/Wall Mounting Kits
- Installation Guide

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Video 1: Official unboxing video for the EAP650, showing the contents of the product packaging including the access point, power adapter, and mounting accessories.

Key Features

- **Ultra-Fast True Wi-Fi 6 AX3000 Speeds:** Designed with the latest wireless Wi-Fi 6 technology featuring 1024-QAM, HE60, and Long OFDM Symbol, boosting dual-band Wi-Fi speeds up to 2976 Mbps.

- **Ultra-Slim Design:** Compact design ensures simple installation while saving space, blending seamlessly into modern environments.
- **Integrated into Omada SDN:** Part of the Omada Software Defined Networking (SDN) platform, integrating network devices with multiple control options (Hardware controller, Software Controller, Cloud-based controller). Standalone mode is also supported.
- **Cloud Access & Omada App Compatibility:** Remote Cloud access and the Omada app enable centralized cloud management of the entire network from different sites, controlled from a single interface anywhere, anytime.
- **Advanced Wireless Tech:** Supports Mesh WiFi, Seamless Roaming (requires Omada SDN controllers), WPA3, Band Steering, Load Balancing, Airtime Fairness, and Beamforming technologies.
- **Multiple Powering Options:** Supports 802.3at PoE+, 48V/0.5A Passive PoE, and 12V/1.5A DC power supply, allowing power via a TP-Link PoE+ switch, a Passive PoE adapter (e.g., TP-Link Model: TL-PoE4824G), or the provided DC adapter.

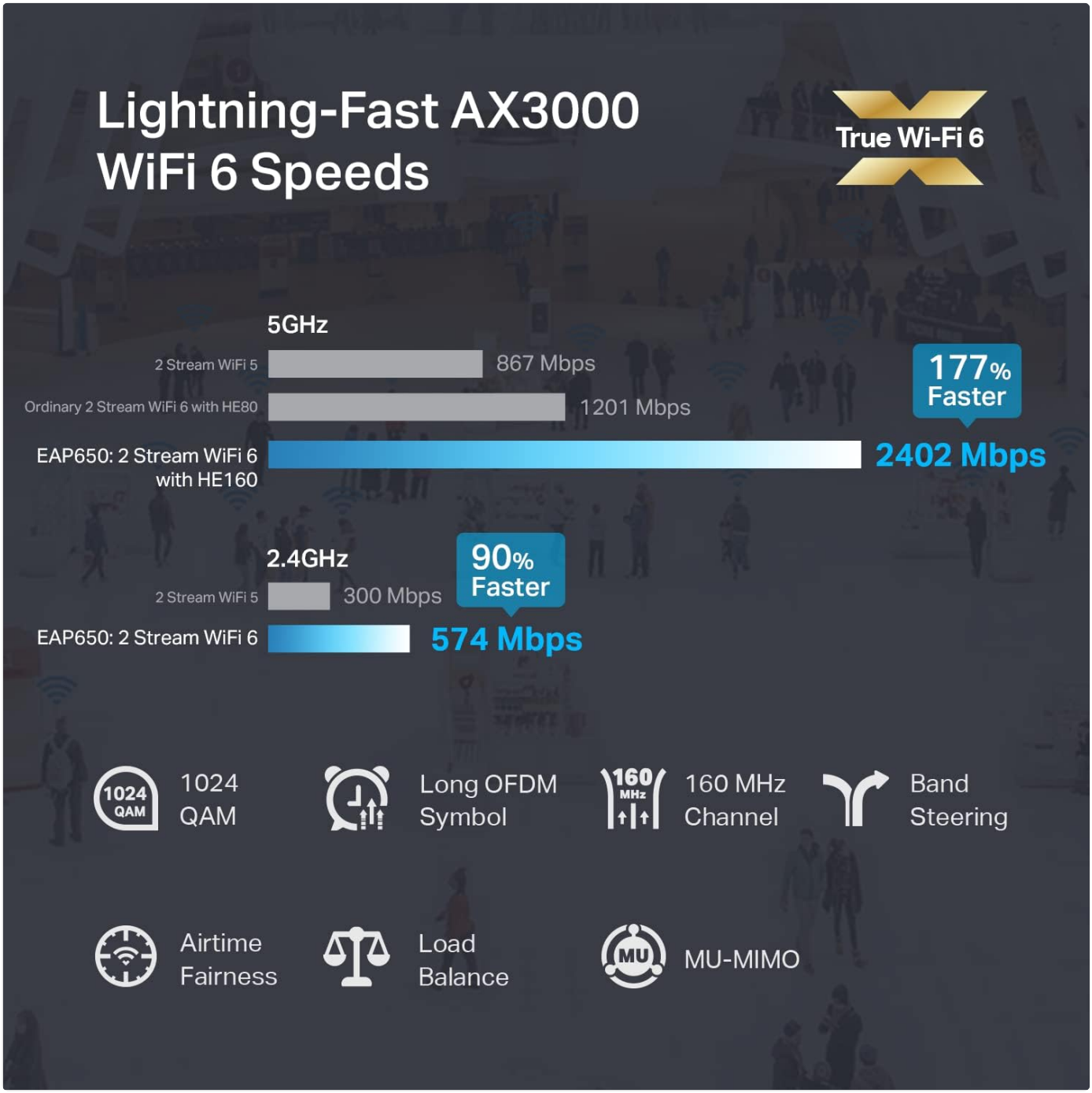


Figure 2: Visual comparison of EAP650's Wi-Fi 6 speeds (2402 Mbps on 5GHz, 574 Mbps on 2.4GHz) against older Wi-Fi standards, highlighting the significant speed increase.



Figure 3: Dimensions of the EAP650 (6.3 x 6.3 x 1.32 inches) and its power input options (12V/1.5A DC, 48V/0.5A Passive PoE, ETH(PoE+)).

Setup and Installation

The EAP650 is designed for flexible and easy installation. Refer to the included Installation Guide for detailed steps. Key aspects include:

Mounting Options

The device comes with ceiling/wall mounting kits. Its compact design allows for discreet placement in various environments such as offices, hotels, classrooms, or cafes. It is designed to simply push up and rotate to lock for easy mounting.



Figure 4: Detailed view of the EAP650's connectivity ports, including the 12V DC power input, Ethernet port with PoE capabilities, and the reset button.

Powering the Device

You can power the EAP650 using one of the following methods:

- **802.3at PoE+ Switch:** Connect the EAP650 to a PoE+ compatible switch using an Ethernet cable. This allows both data and power to be transmitted over a single cable.
- **Passive PoE Adapter:** Use a 48V/0.5A Passive PoE adapter (e.g., TP-Link Model: TL-PoE4824G) to provide power.
- **DC Power Adapter:** Use the provided 12V/1.5A DC power adapter by plugging it into a standard electrical outlet.

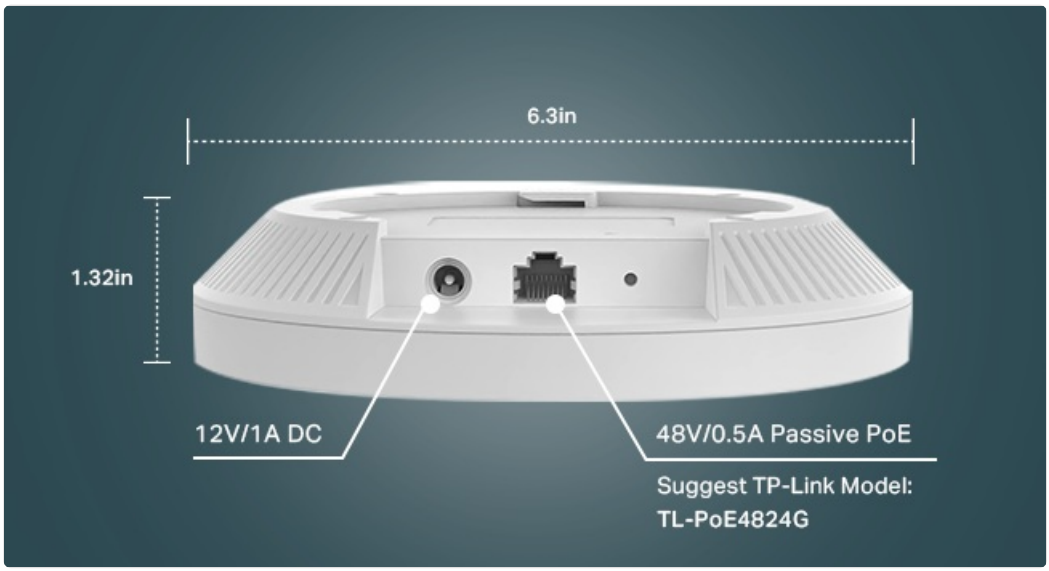


Figure 5: Illustration of how PoE+ simplifies deployment by eliminating the need for separate power cables, and how mesh networking can

reduce wiring requirements.

Initial Configuration

For initial setup and configuration, you can use the Omada app. Simply launch the app and scan the S/N code on the package to begin the setup process. For more advanced configurations or multi-device management, consider using an Omada Hardware Controller, Software Controller, or Cloud-based Controller.

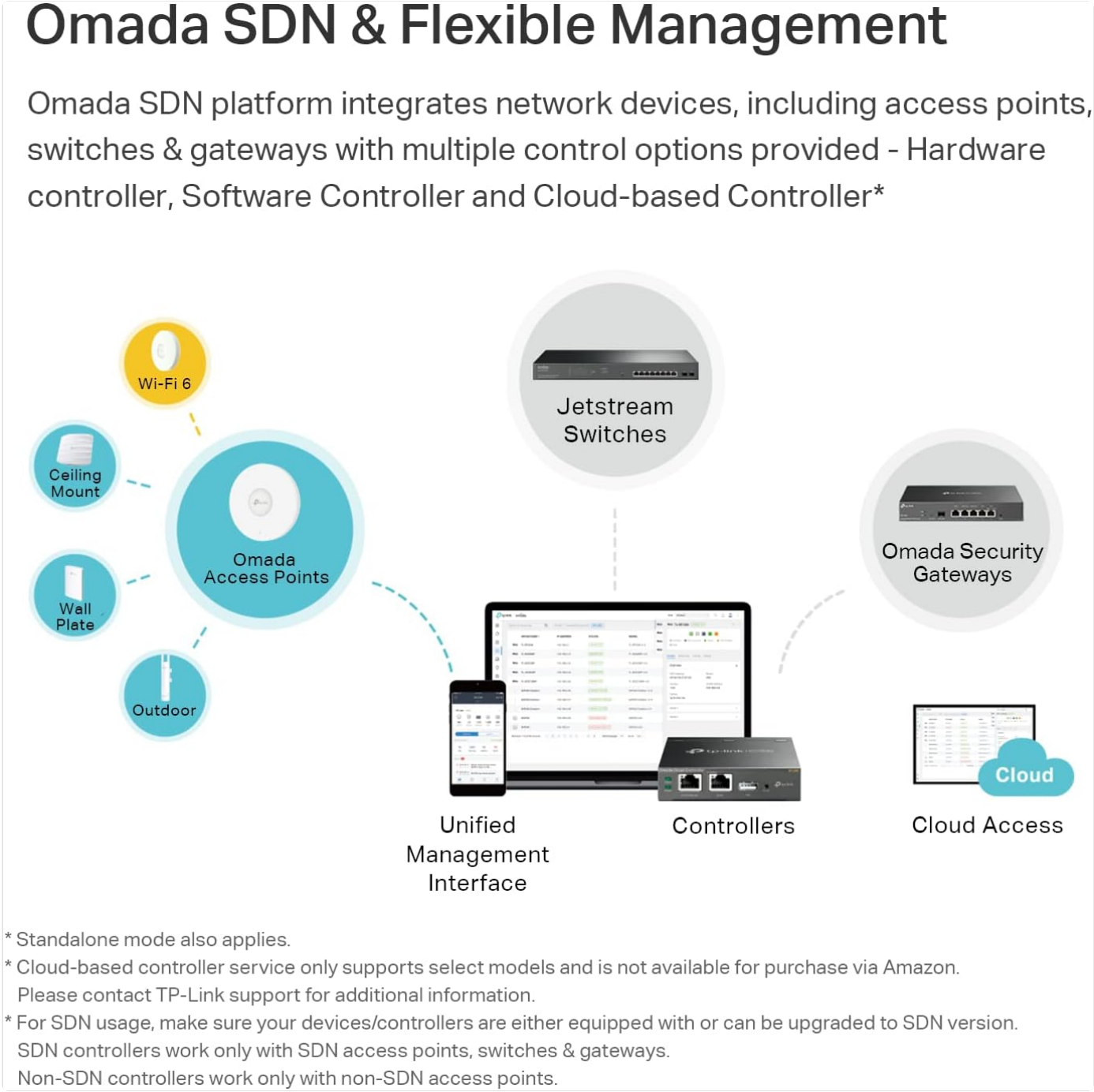


Figure 6: Overview of the Omada SDN platform, illustrating how access points, switches, and gateways can be managed through a unified interface via hardware, software, or cloud controllers.

Operating Instructions

The EAP650 provides a robust and efficient wireless experience. Here's how to maximize its performance:

Seamless Roaming

When deployed with Omada SDN controllers, the EAP650 supports seamless roaming. This feature allows devices to automatically switch between access points as you move, ensuring a strong signal and uninterrupted connection without

drops.

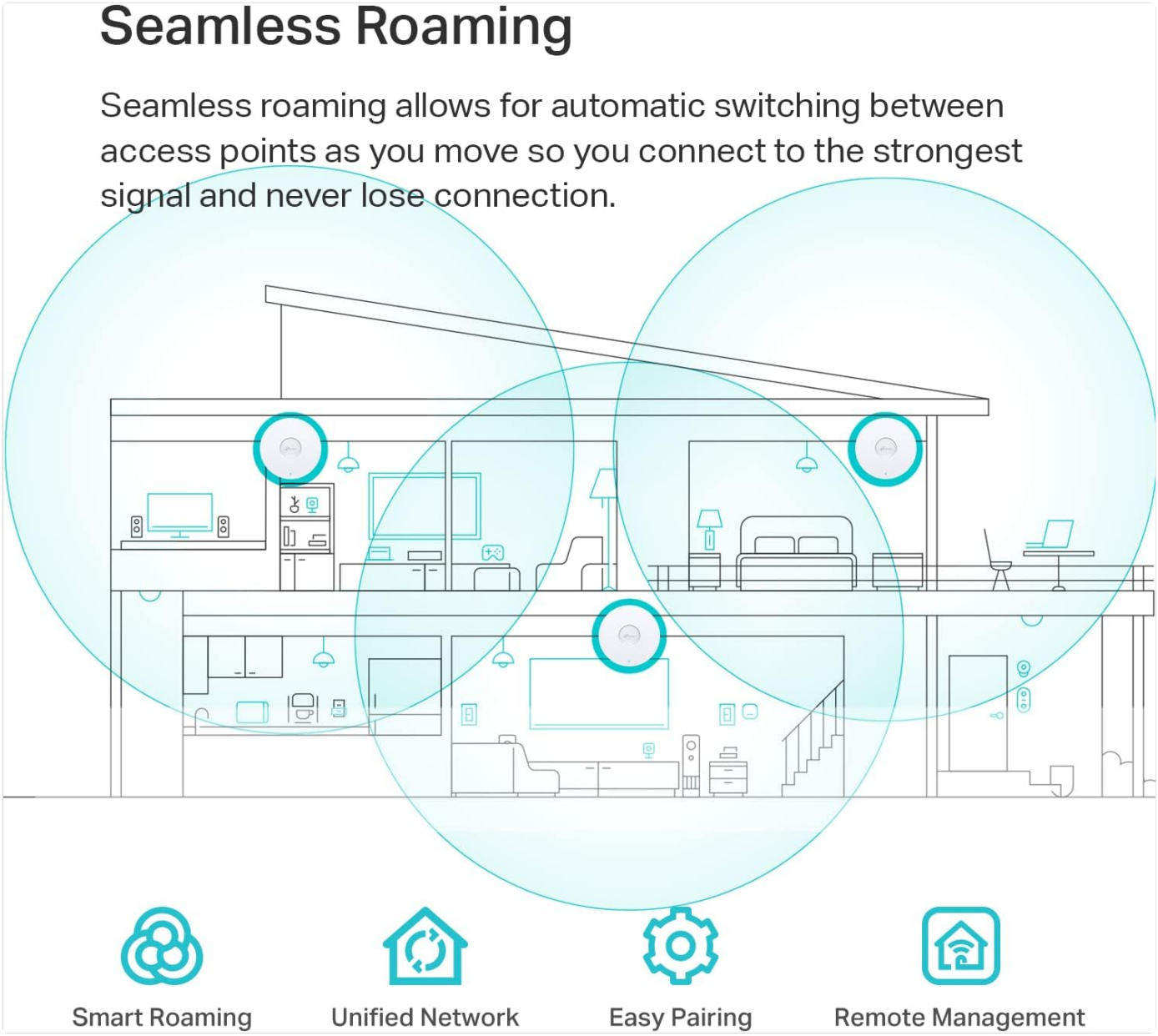


Figure 7: Visual representation of seamless roaming, where devices automatically connect to the strongest Wi-Fi signal as users move through different areas covered by multiple access points.

Advanced Wireless Technologies

The EAP650 incorporates several advanced technologies to optimize network performance:

- **Mesh WiFi:** Extends Wi-Fi coverage wirelessly, ideal for areas where running Ethernet cables is difficult.
- **WPA3:** Provides enhanced security for your wireless network.
- **Band Steering:** Automatically pushes dual-band clients to the faster 5 GHz band.
- **Load Balancing:** Distributes client connections evenly among access points to prevent overload.
- **Airtime Fairness:** Ensures that slower devices do not monopolize airtime, improving overall network efficiency.
- **Beamforming:** Focuses Wi-Fi signals towards connected devices for stronger, more reliable connections.

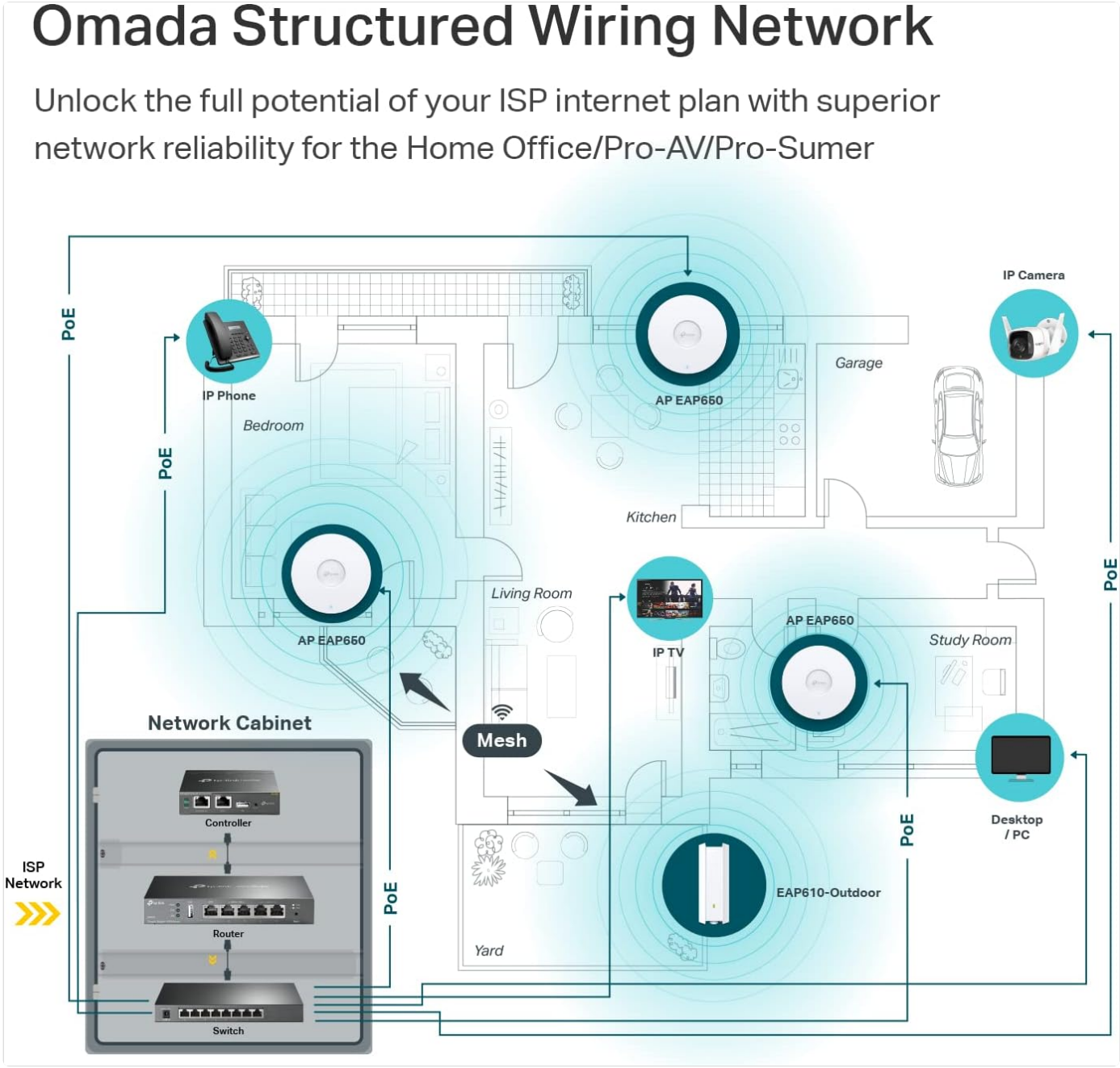


Figure 8: Example of an Omada Structured Wiring Network, demonstrating optimal placement of EAP650 and EAP610-Outdoor access points for comprehensive coverage in a home or office environment, including PoE connections for various devices.

Maintenance

To ensure optimal performance and longevity of your TP-Link EAP650 Access Point, consider the following maintenance tips:

- **Firmware Updates:** Regularly check the TP-Link website for the latest firmware updates. Updating the firmware can improve performance, add new features, and enhance security.
- **Physical Inspection:** Periodically inspect the device and its connections for any signs of damage or wear. Ensure cables are securely connected.
- **Cleaning:** Keep the device clean and free from dust. Use a soft, dry cloth for cleaning. Avoid using liquid cleaners or aerosols.
- **Environmental Conditions:** Ensure the device is operating within its recommended temperature and humidity ranges. Avoid placing it near heat sources or in direct sunlight.
- **Network Monitoring:** Utilize the Omada app or controller interface to monitor network performance and device status. This can help identify potential issues early.

Troubleshooting

If you encounter issues with your EAP650, try the following basic troubleshooting steps:

- **No Power/LED Off:**
  - Check power connections. Ensure the DC adapter is properly plugged in or the PoE source is active.
  - Verify the power outlet is functional.
- **No Internet Connection:**
  - Check the Ethernet cable connection from the EAP650 to your router/switch.
  - Verify your internet service provider (ISP) connection is active.
  - Restart the EAP650 and your router/modem.
- **Weak Wi-Fi Signal or Slow Speeds:**
  - Ensure the EAP650 is centrally located and free from obstructions.
  - Check for sources of interference (e.g., microwaves, cordless phones).
  - Verify that your client devices support Wi-Fi 6 for optimal performance.
  - If using Omada SDN, check channel selection and power adjustment settings.
- **Cannot Access Omada App/Controller:**
  - Ensure your device is connected to the network provided by the EAP650.
  - Verify the IP address of the EAP650 or Omada Controller.
  - Check firewall settings on your computer or network.
- **Resetting the Device:** If issues persist, you may need to reset the EAP650 to factory default settings. Locate the reset button (refer to Figure 4) and press and hold it for approximately 5-10 seconds until the LED behavior changes.

Specifications

Feature	Detail
Product Dimensions	6.3 x 6.3 x 1.32 inches
Item Weight	13.7 ounces
Item Model Number	EAP650
Brand	TP-Link
Model Name	EAP650
Special Feature	WPS
Frequency Band Class	Dual-Band
Wireless Communication Standard	802.11ax (Wi-Fi 6)
Connectivity Technology	Ethernet
Color	White

Manufacturer	TP-Link
Country of Origin	Vietnam

Warranty and Support

The TP-Link EAP650 is backed by an industry-leading 5-year warranty. Free technical support is available from 6 AM to 6 PM PST, Monday to Friday.
For further assistance, you can refer to the official User Guide (PDF) available at:TP-Link EAP650 User Guide
Additional support and resources can be found on the official TP-Link website.

Important Information

Legal Disclaimer

1. Maximum wireless transmission rates are the physical rates derived from IEEE Standard 802.11 specifications. Range and coverage specifications are based upon test results under normal usage conditions. Actual wireless transmission rate and wireless coverage are not guaranteed and will vary as a result of 1) environmental factors, including building materials, physical objects and obstacles, 2) network conditions, including local interference, volume and density of traffic, product location, network complexity, and network overhead and 3) client limitations, including rated performance, location, connection quality, and client condition.
2. Actual network speed may be limited by the rate of the product's Ethernet WAN or LAN port, the rate supported by the network cable, Internet service provider factors and other environmental conditions.

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Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question