BrosTrend AX300

BrosTrend AX300 USB WiFi 6 Linux Adapter User Manual

Model: AX300 | Brand: BrosTrend

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your BrosTrend AX300 USB WiFi 6 Linux Compatible Adapter. The AX300 is designed to upgrade your Linux devices with WiFi 6 connectivity, offering enhanced wireless performance on the 2.4GHz band.

Image: The BrosTrend AX300 USB WiFi 6 Linux Adapter, a compact black USB dongle.

2. Key Features

- **WiFi 6 Connectivity for Linux:** Upgrades Linux devices with WiFi 6 technologies including OFDMA, Beamforming, and BSS Color for improved performance. Operates exclusively on the 2.4GHz band.
- **Broad Linux Compatibility:** Supports Kernels up to 6.14 and a wide range of Linux distributions such as Ubuntu (all flavors), Raspberry Pi OS 8-12, Debian 8-13, Linux Mint 18-22, LMDE 1-6, Zorin, MX Linux, Linux Lite, elementary OS, and more.
- **Reliable 2.4GHz Performance:** Delivers wireless speeds up to 286Mbps on the 2.4GHz band, suitable for browsing and video streaming. 5GHz band is not supported.
- **Enhanced WiFi Range:** Utilizes Beamforming technology to receive focused signals from compatible routers, providing broader and more consistent coverage.
- **Ultra-Compact Design:** Measures approximately 0.83 × 0.59 × 0.28 inches, ensuring it does not obstruct adjacent USB ports and is ideal for portability.
- **WPA3 Encryption Support:** Provides enhanced security for your wireless connection.
- **Hardware Support:** Compatible with x86_64/x86_32 PCs and aarch64/armhf devices like Raspberry Pi 2+.

3. Package Contents

The BrosTrend AX300 package includes the following items:

- 1 x BrosTrend AX300 Nano Linux WiFi 6 USB Adapter
- 1 x Instruction Script for Linux OS

4. System Requirements and Compatibility

4.1 Supported Operating Systems

The BrosTrend AX300 is compatible with various Linux distributions and kernels:

- Linux Kernels up to 6.14
- Ubuntu 16.04 to 24.10 (all flavors including Kubuntu, Lubuntu, Xubuntu, Mate, GNOME, Studio, Budgie, Unity, Cinnamon, Kylin)
- Raspberry Pi OS 8 to 12
- Debian 8 to 13
- Linux Mint 18 to 22
- LMDE 1 to 6
- Zorin OS, MX Linux, Linux Lite, elementary OS, KDE neon, SparkyLinux, Peppermint OS, Q4OS, Parrot OS, Devuan, PureOS, Bodhi Linux

Image: Visual representation of various Linux distribution logos indicating compatibility.

4.2 Unsupported Operating Systems

The following distributions are currently **not compatible** with the BrosTrend AX300:

- Arch Linux, Fedora Workstation, Kali Linux, deepin, Pop! OS, antiX, Manjaro, RHEL, CentOS, openSUSE Leap, OpenWrt, Guix, Puppy, Tails, Endless OS, LibreELEC, OSMC, SteamOS.

4.3 Hardware Compatibility

The adapter supports:

- x86_64/x86_32 architectures (e.g., standard PCs)
- aarch64/armhf architectures (e.g., Raspberry Pi 2 and newer models)

5. Setup and Driver Installation

Proper driver installation is essential for the BrosTrend AX300 to function correctly on your Linux system. Please follow these steps carefully:

1. **Do not plug in the WiFi adapter yet.**
2. **Ensure an active internet connection:** For initial driver installation, your Linux device must have an existing internet connection (e.g., via Ethernet or another working WiFi adapter).
3. **Locate the Linux Driver Installation Guide:** Refer to the instruction script included in your product package for detailed steps on how to download and install the driver.
4. **Install the Linux driver:** Follow the instructions provided in the guide to install the necessary drivers for your specific Linux distribution.
5. **Plug in the WiFi adapter:** Once the driver installation is complete, insert the BrosTrend AX300 USB WiFi adapter into an available USB 2.0 port on your computer or Raspberry Pi.
6. **Verify connection:** After plugging in, your system should detect the adapter, and you can then connect to a 2.4GHz WiFi network.

Important Note:

⚠ Internet connection is required for the initial driver download.

⚠ Install the Linux driver BEFORE plugging in your WiFi adapter.

Your browser does not support the video tag.

Video: An introductory video demonstrating the BrosTrend AX300 Linux WiFi 6 USB Adapter and its features.

6. Operating Instructions

Once the driver is installed and the adapter is plugged in, your Linux system should recognize the BrosTrend AX300 as a network device.

1. **Connect to a WiFi Network:** Use your system's network manager to scan for available WiFi networks.
2. **Select 2.4GHz Network:** Choose a 2.4GHz network from the list. The AX300 operates only on this frequency band.
3. **Enter Password:** If prompted, enter the WiFi password for your chosen network.
4. **Verify Connection:** Confirm that your device is successfully connected to the internet.

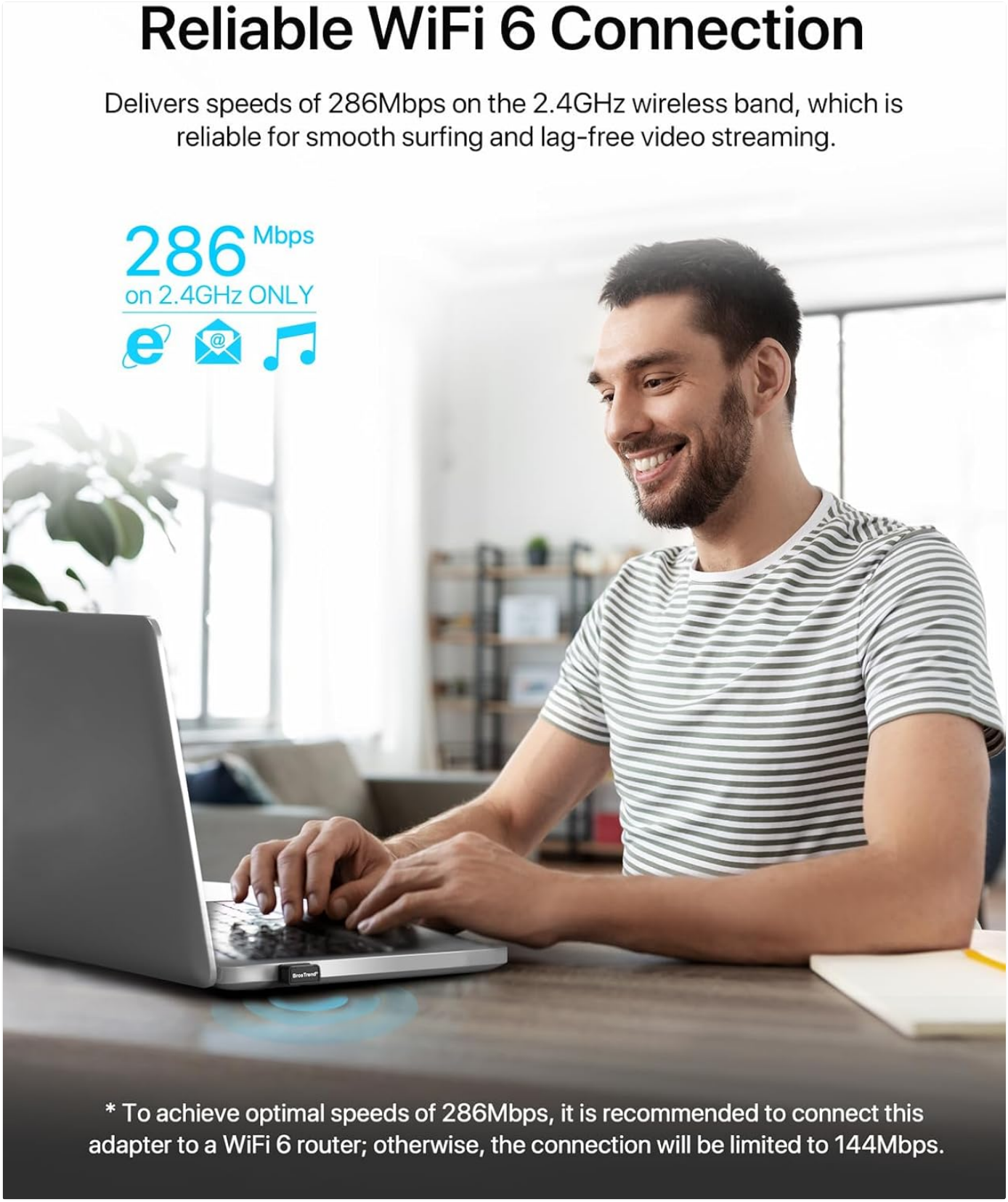

Image: A person using a laptop with the BrosTrend AX300 adapter, illustrating seamless WiFi connection.

6.1 Optimizing Performance

- For optimal speeds of 286Mbps, connect the adapter to a WiFi 6 compatible router. Otherwise, the connection speed may be limited to 144Mbps.
- Position your device within a reasonable range of your WiFi router to benefit from Beamforming technology and maintain a strong signal.

Image: Diagram illustrating how Beamforming technology directs WiFi signals for better range and consistency.

7. Maintenance

To ensure the longevity and optimal performance of your BrosTrend AX300 adapter:

- Keep the adapter clean and free from dust.
- Avoid exposing the adapter to extreme temperatures or humidity.

- Do not attempt to disassemble or repair the device yourself.
- Store in a safe place when not in use, especially given its ultra-small size.

Image: The BrosTrend AX300 adapter shown next to an SD card, highlighting its compact dimensions.

8. Troubleshooting

8.1 Adapter Not Detected / No WiFi Connection

- **Driver Installation:** Ensure the Linux driver has been correctly installed as per Section 5. A common issue is plugging in the adapter before installing the driver.
- **Internet Connection for Driver:** Remember that an internet connection is required to download the driver initially. If you lack internet access, you may need to download the driver on another device and transfer it via USB.
- **USB Port:** Try plugging the adapter into a different USB port.
- **Reboot System:** Sometimes a system reboot after driver installation can resolve detection issues.
- **Kernel Version:** Verify your Linux kernel version is supported (up to 6.14).
- **Unsupported OS:** Confirm your Linux distribution is listed as supported in Section 4.2.

8.2 Slow Connection Speeds

- **Router Compatibility:** For maximum speeds (286Mbps), ensure your router is WiFi 6 compatible. Otherwise, speeds may be capped at 144Mbps.
- **2.4GHz Band:** The AX300 operates only on the 2.4GHz band. Ensure you are connected to a 2.4GHz network and not a 5GHz network (if your router offers both).
- **Interference:** Reduce interference from other electronic devices (microwaves, cordless phones) and physical obstructions (walls, large furniture).
- **Distance from Router:** Move closer to your WiFi router to improve signal strength.

9. Specifications

Brand	BrosTrend
Model Number	AX300
Hardware Interface	USB 2.0
Wireless Standard	WiFi 6 (IEEE 802.11ax)
Frequency Band	2.4GHz (5GHz NOT supported)
Data Transfer Rate	Up to 286 Mbps (on 2.4GHz)
Data Link Protocol	IEEE 802.11a
Product Dimensions	0.83 x 0.59 x 0.28 inches (2.1 x 1.5 x 0.7 cm)
Item Weight	1.06 ounces (30 grams)
Security	WPA3 encryption support
Compatible OS Family	Linux (specific distributions listed in Section 4)

Note: The data link protocol listed as IEEE 802.11a in the source data typically refers to 5GHz operation, while this device operates on 2.4GHz and supports WiFi 6 (802.11ax).

10. Warranty and Support

BrosTrend products typically come with a manufacturer's warranty. Please refer to the warranty information provided in your

product packaging or on the official BrosTrend website for details regarding warranty duration and terms.
For technical support, driver assistance, or any inquiries, please contact BrosTrend customer support. Contact information can usually be found on the BrosTrend website or in the documentation included with your product.
You can also visit the official BrosTrend store on Amazon for more information and support resources:BrosTrend Amazon Store