

Final Project:

CS406- Data communication & Network

Group No.

13

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WIFI Booster Set-up Manual



Project Objectives:

- Learn about WIFI network structures and communication protocols.
- Understand the role and functions of a WIFI extender.
- Gain experience in setting up and configuring a WIFI extender.
- Test the extended network's performance and troubleshoot issues.
- Document the configuration process and observations for reference.

Project Requirements:

1. Hardware

- WIFI router: An existing router providing the primary network.
- WIFI extender: A device compatible with the primary network.
- Computers or mobile devices: To test the extended network and for configuration.
- Ethernet cables: For a wired connection during setup.

2. Software

- Web browser: For accessing the web-based setup interface of the WIFI extender.

Network Configuration:

1. SSID and Password: The SSID and password of the primary network.
2. IP addressing: Knowledge of IP addressing and subnetting is helpful.

Step 1: Select the WIFI Extender that is compatible with your existing WIFI network (check frequency and standards).

- We took the **WIFI extender of Tenda.**

Step 2: Place the WIFI Extender approximately halfway between the router and the area needing improved WIFI coverage. Ensure the extender receives a strong signal from the router.

Step 3:

Configure the WIFI Extender

- **Power on:** Connect the extender to a power source and turn it on.
- **Ethernet Connection:** Connect an Ethernet cable from the primary router to the WIFI extender's **WAN port**. This setup can help ensure a strong and reliable connection between the primary router and the extender. It can also improve the performance of the extended network.
- **Access setup interface:** Connect to the extender's default network and open a web browser to access the setup page (refer to the extender's manual for the default IP address:192.168.0.1 and login credentials).
- **Follow setup instructions:** The setup wizard may prompt you to use the Ethernet connection as part of the setup process. Continue following the wizard's instructions to connect the extender to the primary WIFI network, and configure any necessary settings.
 - Select connection type: Dynamic IP
 - Change WIFI Name (optional)
 - Create Password for the connection
- **Adjust settings:** Configure any additional settings, such as SSID broadcasting, security settings, and IP addressing.
 - Select Wireless Repeating (because we are extending the range)
 - Select WISP
 - Select the router (whose range we want to extend)
 - Enter the password of that password
 - Then rebooting start
 - Again, connect to the WIFI

Step 4:

Test the Extended Network

- **Connect a device:** For Ethernet-connected extenders, you may have the option to connect a device directly via Ethernet to test the connection's stability and speed. In addition, you can test WIFI connectivity to ensure the extended network is functioning properly.

- **Test connectivity:** Check if you can access the internet and if the connection is stable on both the Ethernet and WIFI interfaces.
- **Test speed and performance:** Measure the speed and quality of the connection using online tools or apps for both the Ethernet and WIFI connections. As shown in video like
 - Open www.speedtest.net
 - Check the speed in Mbps

Step 5:

Troubleshoot and Optimize

- **Adjust placement:** If performance is poor, adjust the extender's location or consider a different Ethernet cable or a different port on the primary router.
- **Check for interference:** Ensure the Ethernet cable isn't subject to interference or damage, and check for potential WIFI interference as well.
- **Review settings:** Verify the extender's settings and make adjustments as necessary, particularly for dual-band extenders (if applicable), as there might be different configuration options for 2.4 GHz and 5 GHz bands.

Reference:

1. For Connectivity: https://www.youtube.com/watch?v=q1Wg_77HUi0
2. For Extender setup: <https://www.tendacn.com/faq/>