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## D-Link DIR-650IN

# D-Link DIR-650IN Wireless N300 Router User Manual

Model: DIR-650IN

## INTRODUCTION

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This manual provides detailed instructions for setting up, operating, maintaining, and troubleshooting your D-Link DIR-650IN Wireless N300 Router. The DIR-650IN is designed to provide high-speed wireless connectivity for your home or small office network, supporting multiple operating modes including Router, Access Point, Repeater, Client, and WISP Client/Repeater.

## PACKAGE CONTENTS

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Verify that your package contains the following items:

- D-Link DIR-650IN Wireless N300 Router
- Power Adapter
- Ethernet Cable
- Quick Installation Guide (QIG)

If any items are missing or damaged, please contact your local D-Link reseller.

## PRODUCT OVERVIEW

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The D-Link DIR-650IN is a Wireless N300 Router equipped with four high-gain omni-directional antennas, designed to deliver reliable Wi-Fi coverage. It supports various operating modes to suit different networking needs.



**Figure 1:** Front view of the D-Link DIR-650IN Wireless N300 Router, showcasing its four external antennas and indicator lights.

### Key Features:

- Wireless N300 speed for fast data transfer.
- Four high-gain antennas for extended coverage.
- Multiple operating modes: Router, Access Point, Repeater, Client, WISP Client/Repeater.
- Advanced security features including WPA/WPA2 encryption.
- Quality of Service (QoS) for bandwidth management.
- Guest Zone and Wireless Scheduling capabilities.



**Figure 2:** Illustration depicting the wireless coverage of the D-Link DIR-650IN Router, suitable for small to standard-sized homes (up to 450 sq ft).

## SETUP

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### 1. Hardware Installation

1. **Positioning the Router:** Place the router in a central location in your home or office, away from obstructions and devices that may cause interference (e.g., cordless phones, microwaves).
2. **Connect the Antennas:** Ensure all four antennas are securely attached and oriented vertically for optimal signal.
3. **Connect to Power:** Plug the provided power adapter into the router's power port and then into a wall outlet. The Power LED should illuminate.
4. **Connect to Internet (Router Mode):**
  - Connect one end of the Ethernet cable to your modem's LAN port.
  - Connect the other end of the Ethernet cable to the **WAN port** (usually distinctively colored or labeled) on your DIR-650IN router.
5. **Connect to Computer:**
  - For initial setup, connect one end of the Ethernet cable to any of the **LAN ports** on the router.
  - Connect the other end to the Ethernet port on your computer. Alternatively, you can connect wirelessly using the default Wi-Fi name (SSID) and password found on the router's label or Quick Installation Guide.

### 2. Initial Configuration (Web Browser Setup)

1. Open a web browser (e.g., Chrome, Firefox, Edge) on the computer connected to the router.
2. In the address bar, type the router's default IP address (commonly 192.168.0.1 or 192.168.1.1) and press Enter. Refer to your Quick Installation Guide for the exact IP address.
3. When prompted, enter the default username and password. These are typically admin for username and either

blank or admin for password. Consult your QIG or the router's label.

4. Follow the on-screen Setup Wizard. This wizard will guide you through configuring your internet connection type, wireless network name (SSID), and password.
5. It is highly recommended to change the default administrator password for security purposes.

## OPERATING MODES

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The DIR-650IN supports multiple operating modes to adapt to various network environments.

### 1. Router Mode (Default)

In Router Mode, the device acts as the primary gateway for your network, connecting to your Internet Service Provider (ISP) via the WAN port and distributing internet access to all connected devices (wired and wireless).

### 2. Access Point (AP) Mode

AP Mode converts your router into a wireless access point, extending an existing wired network wirelessly. It connects to an existing router or switch via a LAN port and broadcasts a Wi-Fi signal.

### 3. Repeater Mode

Repeater Mode extends the range of an existing wireless network. The DIR-650IN connects wirelessly to your main router and re-broadcasts the signal, improving coverage in areas with weak Wi-Fi.

### 4. Client Mode

In Client Mode, the router acts as a wireless adapter for wired devices. It connects wirelessly to your main Wi-Fi network and provides internet access to devices connected to its LAN ports via Ethernet cables.

### 5. WISP Client/Repeater Mode

WISP (Wireless Internet Service Provider) Client/Repeater Mode allows the router to connect wirelessly to a WISP access point and share that internet connection with local wired and wireless devices. It functions as both a wireless client and a router/repeater.

## ADVANCED CONFIGURATION

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Access the router's web-based interface to configure advanced settings.

### Wireless Security

- **WPA/WPA2 Encryption:** Configure strong passwords for your wireless network using WPA2-PSK (AES) for optimal security.
- **WPS (Wi-Fi Protected Setup):** Use WPS for easy connection of compatible devices, but consider disabling it if not in use for enhanced security.
- **Wireless Guest Zone:** Create a separate Wi-Fi network for guests, isolating them from your main network for security.
- **Wireless Scheduling:** Set schedules to automatically turn your Wi-Fi on or off, conserving energy and managing network access.

### Network Security

- **Firewall:** The router includes a built-in firewall with NAT (Network Address Translation) and SPI (Stateful Packet Inspection) to protect your network from external threats.
- **IP/MAC Filtering:** Control network access by allowing or blocking specific IP addresses or MAC addresses.

- **DMZ (Demilitarized Zone):** Designate a device to be exposed to the internet, useful for certain gaming or server applications, but use with caution.

## Quality of Service (QoS)

QoS allows you to prioritize network traffic, ensuring that critical applications (e.g., video streaming, online gaming) receive sufficient bandwidth, reducing lag and buffering.

## Other Features

- **IPv6 Support:** The router supports the latest Internet Protocol version for future-proof networking.
- **TR-069:** Enables remote management by your ISP.
- **VLAN:** Supports Virtual Local Area Networks for network segmentation.
- **Static Routing:** Configure static routes for specific network configurations.

## MAINTENANCE

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- **Firmware Updates:** Regularly check the D-Link support website for firmware updates. Updating the firmware can improve performance, add new features, and fix security vulnerabilities. Follow the instructions provided with the firmware update carefully.
- **Regular Reboot:** Periodically rebooting your router (unplugging the power for 10-15 seconds and plugging it back in) can resolve minor network issues and improve stability.
- **Physical Cleaning:** Keep the router free from dust and debris. Use a soft, dry cloth to clean the exterior. Ensure ventilation openings are not blocked.
- **Backup Configuration:** It is advisable to back up your router's configuration settings before performing major changes or firmware updates.

## TROUBLESHOOTING

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### No Internet Access

- Check if the WAN LED on the router is lit. If not, ensure the Ethernet cable from your modem is securely connected to the router's WAN port.
- Verify that your modem is working correctly and has an active internet connection.
- Reboot both your modem and router. Unplug them from power, wait 30 seconds, then plug the modem back in. Once the modem is fully online, plug in the router.
- Ensure your router's internet settings (e.g., PPPoE, DHCP, Static IP) are correctly configured according to your ISP's requirements.

### Weak or Intermittent Wi-Fi Signal

- Relocate the router to a more central location, away from walls, large metal objects, and other electronic devices that may cause interference.
- Ensure the antennas are properly oriented.
- Check for wireless interference from neighboring networks. You may need to change your Wi-Fi channel in the router's settings.
- Consider using Repeater or Access Point mode if you have a large area to cover.

### Cannot Access Router's Web Interface

- Ensure your computer is connected to the router either via Ethernet cable to a LAN port or wirelessly to the router's

Wi-Fi network.

- Verify that you are typing the correct IP address (e.g., 192.168.0.1) in your browser's address bar.
- Clear your browser's cache and cookies, or try a different web browser.
- If you have forgotten the administrator password, you may need to perform a factory reset. Locate the reset button (often a small pinhole) on the router, press and hold it for 10-15 seconds while the router is powered on. This will revert all settings to factory defaults, including the login credentials. You will then need to reconfigure the router.

## SPECIFICATIONS

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Feature	Detail
Brand	D-Link
Model Number	DIR-650IN
Connectivity Type	Wi-Fi, Ethernet
Wireless Type	802.11b, 802.11g, 802.11n
Frequency Band Class	Single-Band
Wireless Speed	N300 (300 Mbps)
Number of Ethernet Ports	3 (LAN) + 1 (WAN)
Antennas	4 High-Gain Omni Antennas
Operating Modes	Router, AP, Repeater, Client, WISP Client/Repeater
Security Protocol	WPA/WPA2, WEP, WPS
Dimensions (LxWxH)	28.2 x 4.8 x 29 cm
Item Weight	510 g
Power Source	AC
Included Components	DIR-650IN, Power Adaptor, Ethernet Cable, QIG

## WARRANTY AND SUPPORT

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### Warranty Information

The D-Link DIR-650IN Wireless N300 Router comes with a **3-year brand warranty** from the date of purchase. This warranty covers manufacturing defects and ensures the product functions as intended under normal use. Please retain your purchase receipt for warranty claims.

### Technical Support

For technical assistance, product registration, or to download the latest firmware and documentation, please visit the official D-Link support website for your region. You can typically find contact information for D-Link customer service and technical support on their website.

Before contacting support, please review the troubleshooting section of this manual and the FAQs available on the D-Link support portal, as many common issues can be resolved quickly.

