

WIRELESS RANGE EXTENDER USER MANUAL

MODEL I-WL-REPEATER5



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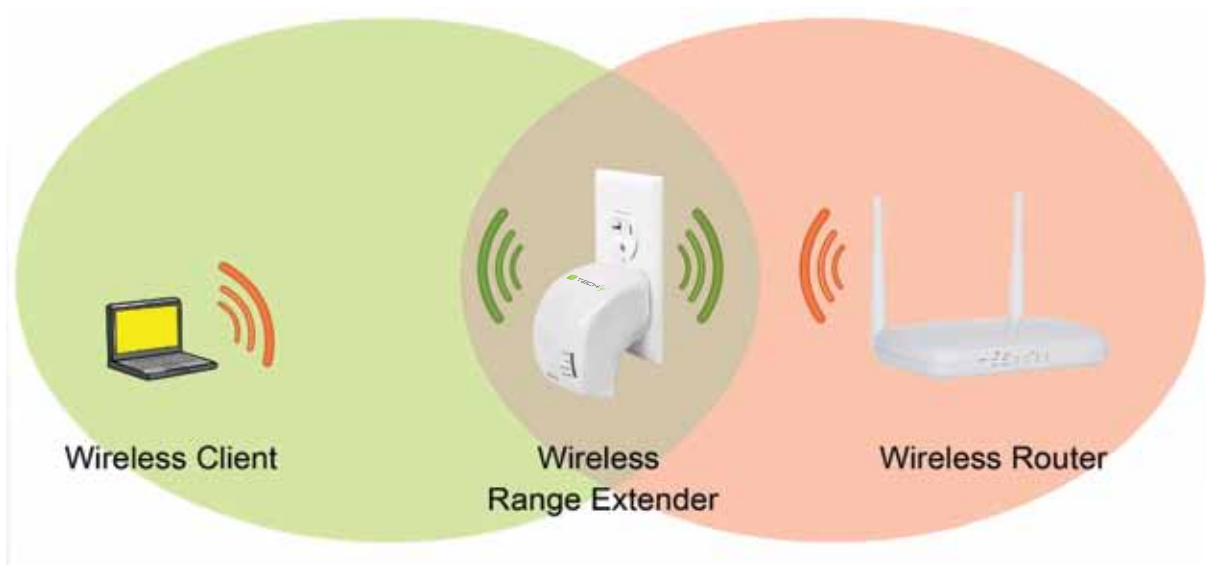
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1. INTRODUCTION

1.1 WHAT IS THE TECHLY WIRELESS AC750 DUAL-BAND RANGE EXTENDER?

Thank you for purchasing the Techly Wireless AC750 Dual-Band Range Extender. A wireless range extender is the ideal solution for boosting your WiFi signal and eliminating dead spots. Better wireless signal strength means you stay connected longer and reduce your 3G/4G mobile data bill. Better wireless signal strength also means that your wireless connection speed will be faster over a larger area, and thanks to its dual-band capability, you can extend the range of a traditional 2.4 GHz Wireless N network as well as a state of the art 5 GHz wireless AC network.

Enjoy a lag-free online gaming experience or watch streaming video in full HD. Even better, the range extender is quick and easy to set up.



1.2 PACKAGE CONTENTS

- Wireless AC750 Dual-Band Range Extender
- Ethernet Cat5 RJ45 cable
- Quick installation guide
- User manual

1.3 HARDWARE - HOUSING



LAN Network Port

The wireless range extender is equipped with a high-speed network port, to which you can connect your computer for the initial setup, in case your wireless router does not support WPS — for example Verizon FIOS® wireless routers. You can use the included network cable for that purpose, but it is okay to use any standard Ethernet network cable that meets or exceeds the Cat5 specification. If you are not sure about this, don't worry. Any standard network cable purchased from various retailers or online shops will work just fine.

WAN/LAN Network Port

If you set the wireless range extender to router mode, then you need to connect your ISP's modem to this port.

WPS Push Button

Wi-Fi Protected Setup (WPS) is a computing standard that attempts to allow easy establishment of secure wireless home-network connections. Created by the Wi-Fi Alliance and introduced in 2007, the goal of the protocol is to allow home users who know little of wireless security and may be intimidated by the available security options to set up the encryption method WPA2, as well as making it easy to add new devices to an existing network without entering long passphrases.

So, what does this all mean for you? If your wireless router is a newer device, there is a good chance that it is equipped with a WPS push-button, in which case you are in luck, because adding the wireless range extender to your network will just be a matter of a couple of minutes. If the router is a little bit older and does not support WPS, the setup will have to be done with your web browser. While that takes a little bit longer, the procedure is also quite easy.

Reset Button

In order to reset the device to its factory default settings, press the reset button for 10 seconds while the device is powered on.

Operation Mode Switch

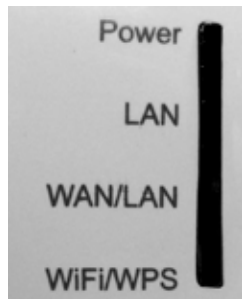
The wireless range extender supports two operational modes. First, the AP/Repeater mode is the default mode for extending the range for an existing wireless network. If you set the selector switch to router mode, then the device acts as a wireless router. In the router mode, this device allows multiple wireless clients to share an existing Internet connection.

Power Outlet Connector

The wireless range extender plugs directly into a power wall outlet. It supports 110 V / 60 Hz for the U.S. and 230 V / 50 Hz for European power outlets. The plug type will vary depending on your location. The illustration above depicts the EU version.

1.4 DEVICE STATUS LEDs

The Techly Wireless AC750 Dual-Band Range Extender is equipped with four LEDs that provide information about the operational status of the device.



| LED | Status | Function |
|----------|------------------|---|
| Power | Off | The device is turned off. |
| | On | The device is connected to a working power outlet and operational. Note: The range extender does not have a power switch. It will turn on as soon as you plug it into a power outlet. |
| LAN | Off | No device is connected to the LAN port. Note: If a computer or laptop is connected to the LAN port but the LAN LED remains off, the problem could be one of the following: a) The network cable used for the connection is faulty. b) The network adapter in the computer or laptop is disabled. |
| | On | A device is connected to the LAN port and an active link has been established. |
| | Flashing | A device is connected to the LAN port, an active link has been established and data is being transmitted. This is the normal operational state if a computer or laptop is connected to the LAN port. |
| WAN/LAN | Off | No device is connected to the WAN/LAN port. |
| | On | A device is connected to the WAN/LAN port and an active link has been established. |
| | Flashing | A device is connected to the WAN/LAN port, an active link has been established and data is being transmitted. This is the normal operational state if a computer or laptop is connected to the port, or if you have connected the WAN/LAN port to your Internet modem. |
| WiFi/WPS | Off | The wireless LAN interface is disabled in the system settings. |
| | On | The wireless LAN interface is enabled. The LED is solid, meaning it does not flash, if no data traffic is transmitted through the wireless LAN interface. Note: That is the default state out of the box, if the range extender has not been connected to a wireless network. |
| | Flashing rapidly | The wireless LAN interface is enabled and data is passed through the wireless LAN interface. |
| | Flashing slowly | The WPS button has been pressed for five seconds. The slow flashing indicates that a connection attempt using WPS is currently being performed. After a short while, the LED will stay lit, only flashing briefly and rapidly to indicate network traffic. |

2. INSTALLATION AS WIRELESS RANGE EXTENDER

The Techly Wireless AC750 Dual-Band Range Extender can be installed in one of two ways. The first way involves the aforementioned WPS, while the second (we call it the manual method) uses a more traditional setup process. Both ways lead to the same result, and it is only a matter of convenience as to why you would use WPS over the manual method, provided your router supports WPS.

2.1 INSTALLATION USING WPS

If your wireless router is equipped with a WPS button (sometimes referred to as N-connect), then you can connect the range extender to your network literally just by pushing two buttons. Here is how it works.

Step 1:

Plug the wireless range extender into the wall outlet. The position of the wall outlet must be chosen carefully. Make sure that you are close enough to your wireless router, so that the wireless signal is still relatively strong. If you move too far away from the wireless router and the wireless signal is already quite weak in that location, you will not be able to achieve good results. Use a wireless device and check the signal strength in the location where you plan to install the range extender.

Note:

If the signal strength is below 60%, you should move closer to the wireless router.

Step 2: Wait for about 60 seconds to allow the wireless range extender to complete its startup sequence. Verify that the the power LED is illuminated.



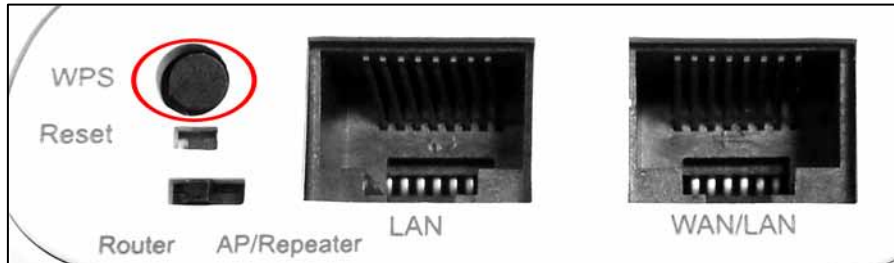
Step 3: On your router, locate and press the WPS button.

Note: The picture illustrates the location of the WPS button on a Techly wireless router. Other routers may not necessarily have the WPS button in the same location. If you cannot find a WPS button, you should skip this section and continue with the manual installation.



Step 4:

Within two minutes of performing Step 3, press the WPS button on the wireless range extender for five seconds. This action will trigger the WPS connection process. It may take up to a minute to complete. While the connection is being established, the WiFi/WPS LED will flash. Once the process is completed, the WiFi/WPS LED turns on and remains on.



Step 5:

User a wireless device to connect to your wireless network. You need to connect to the same wireless network as before because the Techly Wireless AC750 Dual-Band Range Extender re-broadcasts the existing wireless network, including the existing wireless network name (called SSID) and the existing wireless security (for instance, the WPA2 encryption key).

Note: If you want to change the SSID of the amplified wireless network of the Techly Wireless AC750 Dual-Band Range Extender, you can do that in the administrator settings with any standard Web browser. See Section 4 – “Configuration Options” for further details. Should you run into problems with the WPS Push Button installation method, even though your wireless router supports WPS, proceed with setting up the range extender manually, as described in the next section. Users of the Verizon FIOS® Internet service should note that, while the wireless router provided by the ISP does indeed feature a WPS button on the front of the housing, it is disabled in the firmware. As of January 2015, the WPS feature cannot be enabled.

2.2 MANUAL INSTALLATION

If you need to install the Techly Wireless AC750 Dual-Band Range Extender manually, you will need to have the following items before you can begin.

- You need to know the name of your wireless network (it is also referred to as the SSID).
- If your wireless network is protected by an encryption key, you need to know what that password is. It is the same password you need to enter on your laptop or tablet when you connect to your wireless network for the first time.
- A desktop or laptop computer running Microsoft Windows, Mac OS or Linux that has a standard Web browser installed (Firefox, Safari, Chrome or Internet Explorer).
- A standard network cable; e.g., the cable provided in the packaging of the Techly Wireless AC750 Dual-Band Range Extender.

Step 1:

Connect the Techly Wireless AC750 Dual-Band Range Extender to your computer's LAN using the included network cable. Start the computer and allow it to finish booting. Confirm that the LAN LED on the wireless range extender is illuminated.



Step 2:

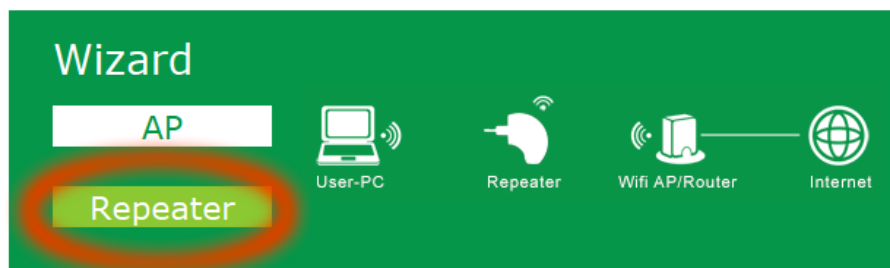
Launch your Web browser and direct it to <http://techly.repeater>. In case this fails, you can also enter <http://192.168.2.2>. Log in with the user name "admin" and password "1234."

Note: If the login window does not appear, the IP address settings of your computer's network adapter may not be compatible with the wireless range extender. Refer to Section 5 – Appendix A: "Changing the IP Address of a Network Adapter" to solve the problem.

A screenshot of the Techly login page. It features a blue background with the Techly logo on the left. On the right, there are three input fields: "Username" with "admin" entered, "Password" with four dots, and "Language" with "English" selected from a dropdown menu. Below these fields is a blue "Submit" button.

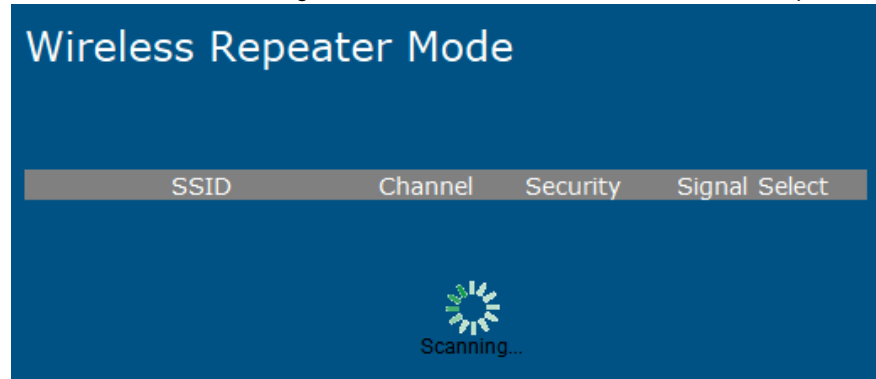
Step 3:

Click "Repeater"



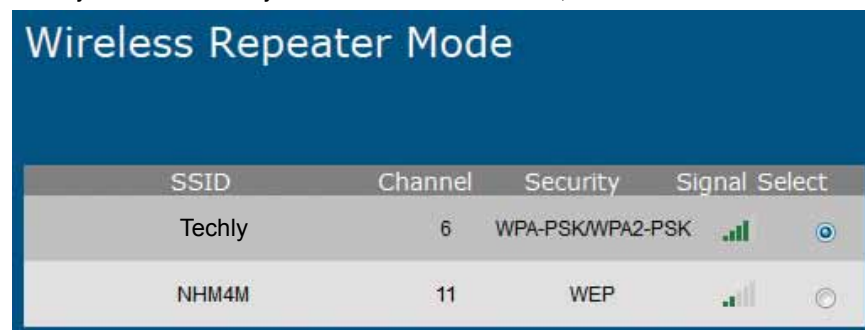
Step 4:

Wait while the wireless range extender scans for available networks. This process can take up to a minute.



Step 5:

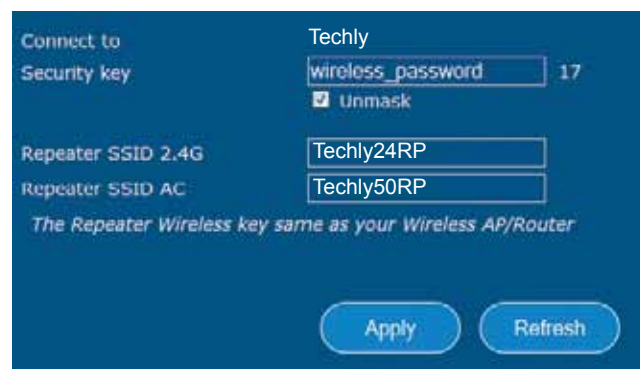
The Techly Wireless AC750 Dual-Band Range Extender shows all wireless networks within range. If you live in an apartment building or in a neighborhood with many houses in close proximity, this list can be quite extensive. Once you have located your wireless home network, select it.



Step 6:

On this screen, you need to type in the wireless encryption key that is required to connect to your wireless home network. You needn't worry about selecting the correct encryption type, authentication mode or cipher suite: The range extender fills that out for you automatically. The wireless password must be entered in the "Security key" field. Be sure to type the password correctly. You can activate the "unmask" option to see the password in clear text.

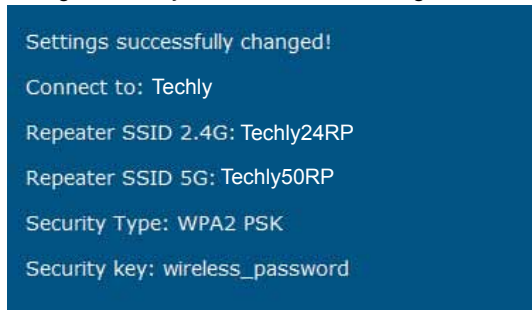
In the two fields below you can type in the SSID (wireless network name) of the 2.4 GHz and 5 GHz (AC) network. You can type in the same name as your wireless network at home, i.e., "Techly", but it may be a good idea to modify the SSID, so that you can quickly see, which wireless network is from your home network, and which one is the repeater network. In the example shown here, we append "24RP" and "50RP" respectively, to differentiate the networks.



Click "Apply" when done.

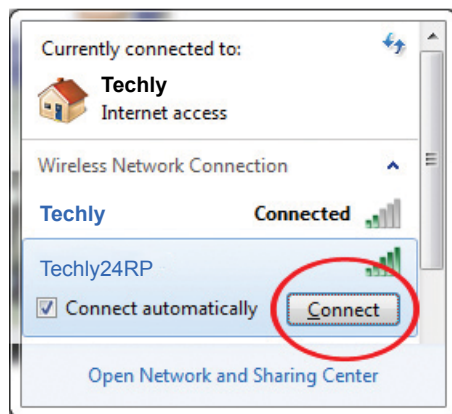
Step 7:

If all goes well, you will see the message below. The setup is now complete.

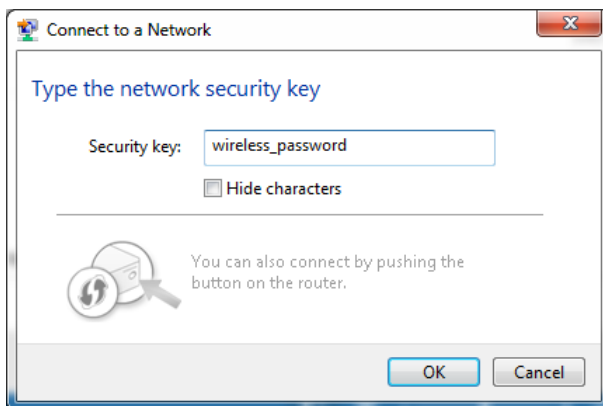


Step 8:

You can join the wireless network "Techly24RP" (or, if you have a Wireless AC compatible WLAN adapter, the network "Techly50RP") and enjoy the increased signal strength. Below you can see the original wireless network named "Techly", and the newly created wireless network "Techly24RP". You can also see that the signal strength of the new network is quite a bit stronger, because it is the range extended network. Click on "Connect" to join the network.



Type in the security key of your wireless network, and then click "Ok" to connect.

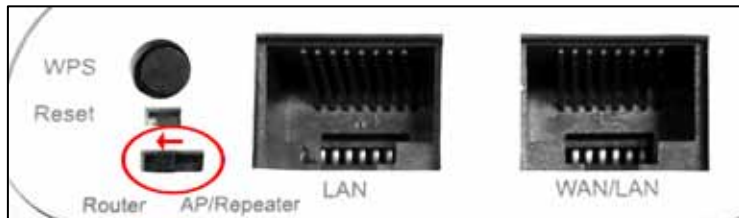


3. INSTALLATION AS WIRELESS ROUTER

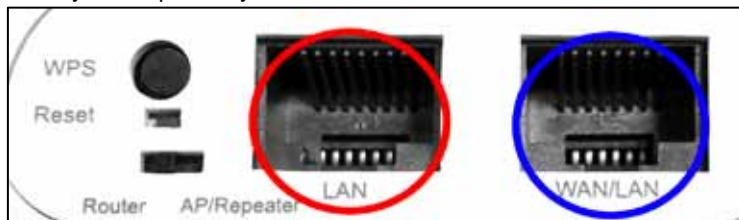
Although its primary function is to act as a signal booster, or wireless repeater, the Techly Wireless AC750 Dual-Band Range Extender can also be installed as a wireless router. A router is the central communication point in your network. It's the connection point for all of your networked devices (Desktop PC, Laptop, Tablets, Smart Phones, etc) and allows them to communicate with each other. Not only that, it also connects all of your devices to the Internet and provides protection from intruders by means of an integrated firewall. Granted, the effectiveness of such a firewall can vary greatly between routers from different manufacturers, however even a basic firewall will provide a decent level of protection, which is much better than connecting your devices directly to the Internet.

Typically, such a wireless router is provided by your Internet service provider, or you have purchased such a device yourself in the past. The Techly Wireless AC750 Dual-Band Range Extender can act as a wireless router, albeit only as a basic one. While it is not meant to replace your stationary wireless router in your home, it can fulfil the role should the need arise. It can also come in handy when you are traveling and end up staying in a hotel that only offers wired Internet service (stranger things have happened), or, perhaps the wireless service is spotty and using the hotel's LAN connection provides you with better results.

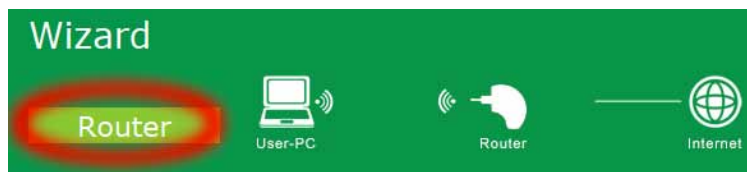
Here is how you set it up: Move the operation mode selector switch to the left position ('Router'). You can do this while the device is powered on. The wireless range extender then performs a restart, and within 60 seconds it is operational again.



The next step is to connect the **WAN/LAN** port to Internet modem (or, the LAN connection port in your hotel). If you want to configure the 'wireless range extender turned wireless router' with a wired connection, you should connect your PC or laptop to the **LAN** port. Alternatively, you can wirelessly connect to the network "Techly24" or "Techly50" respectively.



Open <http://techly.repeater> (or <http://192.168.2.2>) in your web browser, and log in as described in section 2.2, step 2. Click on the "Router" button to open up the router specific configuration screens.



The first thing you need to set up is how the device connects to the Internet.

Three choices are provided, with choice number two be the most common one by far. Option one should only be used if your Internet accesses uses a static IP address, which is quite common in a business environment, but extremely rare in a home environment. Option three is the obvious choice for DSLbased internet connections that uses

PPPoE (Point-to-Point Protocol over Ethernet). Option two is the right choice for almost any other type of network, and if you are not sure which one to choose, we recommend trying option two first. The good news is that option two (Automatically obtain an IP address (dynamic IP)) does not have any configuration options. Hence we only need to take a closer look at option one and three.

Wireless Router Mode

- Internet service providers offer a fixed IP address (static IP)
- Automatically obtain an IP address (dynamic IP)
- ADSL Dial-up (PPPoE)

Option 1 – Internet service providers offer a fixed IP address (static IP)

The screenshot shows the configuration screen for Option 1: Internet service providers offer a fixed IP address (static IP). It features three radio buttons at the top, with the first one selected. Below are input fields for IP Address (172.1.1.1), Subnet mask (255.255.255.0), and Default gateway (172.1.1.254). There are also three empty input fields for DNS 1, DNS 2, and DNS 3.

Your Internet service provider (or network administrator) should have provided you with IP information for you to use. Type in the IP address, subnet mask, default gateway and at least one DNS server.

Note: If you are using the Techly wireless range extender in your home network, or in a hotel while you are traveling, it is very unlikely that this is the right option for you.

Option 3 – ADSL Dial-up (PPPoE)

The screenshot shows the configuration screen for Option 3: ADSL Dial-up (PPPoE). It features three radio buttons at the top, with the third one selected. Below are input fields for User Name (dsl_username), Password (dsl_password), and Service Name. There is also a checkbox labeled 'Unmask' which is checked.

If your Internet connection is PPPoE-based DSL and requires a user name and password to connection, then you need to select this option. You need to provide your DSL user name and password. The service name is optional. It depends on your ISP whether or not this is required.

SSIDS – Setting up the wireless network names

The screenshot shows the SSIDS configuration screen. It has input fields for 2.4G SSID (Techly24) and AC SSID (Techly50). The Security mode is set to WPA2 Personal via a dropdown menu. The Security key is wireless_password, with a strength indicator of 17. There is also an 'Unmask' checkbox which is checked. At the bottom are 'Apply' and 'Cancel' buttons.

Finally you need to define how the wireless networks of the 2.4 GHz and 5 GHz band are named, and what type of security is enabled for them. Recommended over all other options is "WPA2 Personal" as it is the most secure. "WPA/WPA2 Mixed" should only be used if you have wireless clients that have problems connecting with the network when "WPA2 Personal" is used. "WPA Personal" is generally not recommended anymore due to the less than stellar security it provides.

This concludes the setup as the wireless range extender as a wireless router.

4. CONFIGURATION OPTIONS

In this section, we explain everything there is to know about the additional configuration options of the Techly Wireless AC750 Dual-Band Range Extender. But before we begin, a word of caution: The information presented is quite technical at times and not easily understandable by users without any experience in setting up computers and networks. If terms like IP address, DHCP server, WPA, SSID or WPS are unknown to you, some of the information in this section will leave you confused. Also, ask yourself if any of the statements below apply to you. If not, there is really no need to continue reading this section.

You should read this section if you

- want to change the names (SSIDs) of the wireless networks so that you can differentiate the original wireless home network from the range extender networks.
- want to use this product as a regular wireless access point rather than a range extender.
- want to change the IP address of the range extender to be in the same range as the rest of your network.
- are a geek and want to know everything.

4.1 CONNECTING TO THE ADMINISTRATOR WEB INTERFACE

The default IP address of the Techly Wireless AC750 Dual-Band Range Extender is 192.168.2.2. Any computer that has a matching IP address — i.e., in the range 192.168.2.3 – 192.168.2.254 — can connect to the range extender Web UI with any standard Web browser at <http://192.168.2.2>. Alternatively you can open <http://techly.repeater>. The user name is “admin” and the default password is “1234.”

Typically, the computer's network adapter is set up to automatically receive IP address information from a DHCP server, such as your wireless router at home. Unless you have changed this, there is no need to make a change to the network adapter configuration if you want to set up the range extender manually as described in the previous section. However, if you do run a network adapter with static IP settings, you will need to either adjust these settings or change the settings to automatic DHCP. See Section 5 – Appendix A: “Changing the IP Address of a Network Adapter” for details.



For open <http://techly.repeater> you need to set the Network Configuration selecting automatic IP address and DNS as follow:



Under Windows XP,

Right click “**My Network Places**” on your computer desktop and select “**Properties**”.

Right click “**Local Area Connection**” and select “**Properties**”.

Select “Internet Protocol (TCP/IP)” and click “Properties”.



Select “**Obtain an IP address automatically**” and
“**Obtain DNS server address automatically**”.

Click “**OK**” to save the configurations.

4.2 DEFAULT SETTINGS FOR DIFFERENT OPERATIONAL MODES

Depending on the operational status of the wireless range extender, it will exhibit different sorts of behaviors. These directly affect how you need to interact with the device.

Operation mode: Factory default state. Not configured.

| Mode | DHCP Server | Device IP | SSID | How to connect |
|-------------|-------------|-------------|----------------------|---|
| AP/Repeater | Enabled | 192.168.2.2 | Techly24 Techly50 | Wired: Connect network cable from a computer LAN port to a LAN port on wireless range extender. Wireless: Join the wireless network with the name “Techly24” or “Techly50”. Regardless of whether you connected wirelessly or wired, the IP settings of your computer’s network adapter should be set to “Automatic.” If you have a static IP setup, you must temporarily change the IP address to be in the range of 192.168.2.xxx, where “xxx” must not equal “2.” |

Operation mode: Device is set up as a wireless range extender (repeater).

| Mode | DHCP Server | Device IP | SSID | How to connect |
|-------------|--|-------------|---|--|
| AP/Repeater | Disabled DHCP requests from any client will be passed on to the wireless network and will be answered by the main DHCP server; i.e., the wireless router in your network. | 192.168.2.2 | The SSID will be the same as the name of the wireless network that is being extended. | Once the wireless range extender is set up and operates as a repeater, it receives its IP address from the wireless router in your network – just like any of your PCs, laptops, phones or tablets. In order to access the Web admin UI, open the address http://techly.repeater in your web browser. Alternatively, you can check your wireless router’s DHCP log to see which IP address the wireless range extender has received from the wireless router. |

Operation mode: Device is set up as a wireless access point.

| Mode | DHCP Server | Device IP | SSID | How to connect |
|-------------|---|--|--|---|
| AP/Repeater | <p>Disabled</p> <p>DHCP requests from any client will be passed on to the wireless network and will be answered by the main DHCP server; i.e., the wireless router in your network.</p> | <p>The default IP address is 192.168.2.2, but you may have changed this when activating the access point mode.</p> | <p>The SSIDs are going to be the default "Techly24" and "Techly50" unless you changed them in the basic wireless settings.</p> | <p>If you have not changed the default IP address of the device when you activated the access point mode, you must temporarily change the IP address to be in the range of 192.168.2.xxx, where "xxx" must not equal "2."</p> <p>If you did change the IP address of the device to something else — for example 192.168.10.150 — then you must also change the IP address of your network adapter to be in the range of 192.168.10.xxx, where "xxx" must not equal "150."</p> |

Operation mode: Device is set up as a wireless access point.

| Mode | DHCP Server | Device IP | SSID | How to connect |
|--------|-------------------------|-------------|---------------------------------|--|
| Router | <p>Enabled</p> <p>.</p> | 192.168.2.2 | <p>Techly24</p> <p>Techly50</p> | <p>Wired: Connect network cable from a computer LAN port to a LAN port on wireless range extender.</p> <p>Wireless: Join the wireless network with the name "Techly24" or "Techly50". Regardless of whether you connected wirelessly or wired, the IP settings of your computer's network adapter should be set to "Automatic." If you have a static IP setup, you must temporarily change the IP address to be in the range of 192.168.2.xxx, where "xxx" must not equal "2."</p> |

4.3 How-Tos

In this section, we discuss some of the most common actions you are likely to consider.

4.3.1 Changing the name of the wireless network name (SSID)

First, you need to log in to the Web admin UI of the wireless range extender. See Section 4.1.



Next, click “Basic Settings.” Keep in mind that the wireless range extender is a dual-band device, which means it has two wireless radios, which you can configure independently.

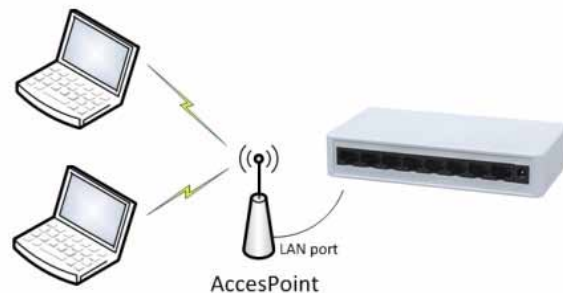


Change the SSID to the desired value, and then click “Apply” to save and activate the settings.

4.3.2 Setting up the device as an access point

In addition to being a wireless range extender, the device can also function as a regular access point. An access point connects wireless and wired devices so that they can communicate in a network. That is exactly what a typical wireless router in a home network does, except the wireless router also manages the connection to the Internet of multiple devices at the same time. That is something a regular wireless access point cannot do.

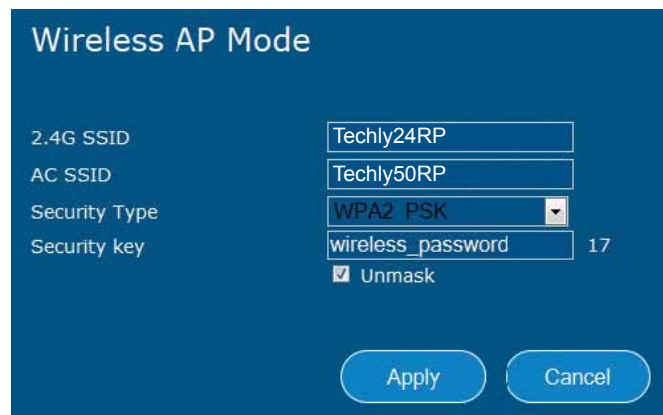
Note: The Techly Wireless AC750 Dual-Band Range Extender can act as a regular access point, but it can fulfill the role of a wireless router, once the mode selector switch is set to router mode.



Log in to the Web admin UI of the wireless range extender. On the main screen, click “AP”.

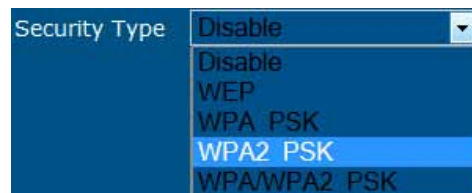


This screen contains the main configuration options for the wireless access point mode.



The image shows a configuration window titled "Wireless AP Mode" with a dark blue background. It contains several input fields: "2.4G SSID" with the value "Techly24RP", "AC SSID" with the value "Techly50RP", "Security Type" with a dropdown menu showing "WPA2 PSK", and "Security key" with the value "wireless_password" and a length indicator "17". There is an "Unmask" checkbox which is checked. At the bottom, there are "Apply" and "Cancel" buttons.

SSID: The service set identifier (SSID) is used as a unique identifier for a wireless LAN. It's commonly called the network name. Here you enter the name you wish to use for this wireless network. Since this is a dual-band device equipped with two independently operating wireless radios, you can define both the 2.4 GHz and the AC (5 GHz) network names here.



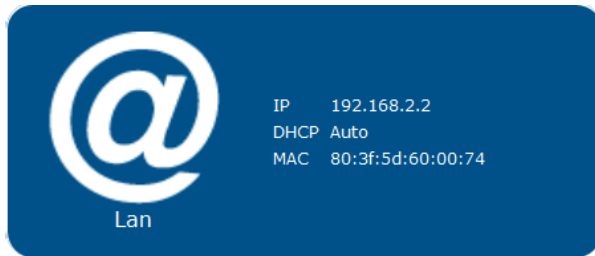
The image shows a dropdown menu for "Security Type". The menu is open, showing the following options: "Disable", "WEP", "WPA PSK", "WPA2 PSK" (which is highlighted in blue), and "WPA/WPA2 PSK".

Security Type: Unless you do not want to lock down your wireless network in any way, shape or form and allow anyone free access, you will want to enable wireless security. Your choices are "WEP," "WPA PSK". "WPA/WPA2 PSK" and "WPA2 PSK." WEP encryption is highly insecure. It should not be used if you want the security encryption to provide actual security. WPA2 is what should be used in almost all cases. If you have older wireless devices that have

trouble with WPA2 encryption, you can enable WPA/WPA2 encryption. This mode activates both WPA TKIP (less secure) and WPA2 (AES) (more secure), which diminishes performance and weakens the security of your network. While still much better than WEP, WPA2 PSK is by far the better option. If you are unsure about which wireless clients you have, and if they all will be able to connect, we recommend to start with WPA2, and only drop down to WPA/WPA2 PSK if clients have problems joining.

Once you select WPA2, you need to provide a wireless password. Check the unmask option to view the password in clear text. The password must be at least eight characters in length, and for maximum compatibility, we recommend refraining from using any spaces (blank characters) in the password.

4.3.3 Changing the IP address of the wireless range extender



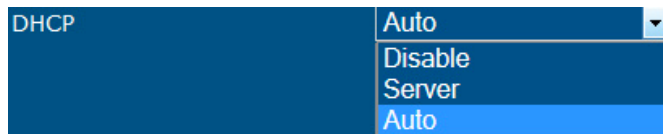
The LAN interface setup is an optional part of the settings. For the access point to function, its IP settings are largely irrelevant. The IP address of the access point is merely used to connect to the device's Web admin interface. So, if you want to be able to connect to the access point's admin interface without changing the wireless settings of your network adapter, or if you want to use the aforementioned scheduler, then here is what you do:

1. Find out what the IP address is of the wireless router in your network; for example, the quite common 192.168.0.1.
2. Find out what the DHCP range is of the wireless router. In this example we use 192.168.0.100 to 192.168.0.200.
3. Set the local IP address to 192.168.0.201.



Once this is done, you can click "Apply" to save the settings. After the restart, the Web admin interface will be at <http://192.168.0.201> – and you can connect to it from any computer in the network without changing its IP address settings.

The second option on the interface is the DHCP function. The Dynamic Host Configuration Protocol (DHCP) is a standardized network protocol used on Internet Protocol (IP) networks for dynamically distributing network configuration parameters, such as IP addresses for interfaces and services. With DHCP, computers request IP addresses and networking parameters automatically from a DHCP server, reducing the need for a network administrator or a user to configure these settings manually. If you still have no idea what DHCP means, and we



wouldn't blame you, just know that a DHCP server enables your computer, laptop, smart phone and tablet to communicate with each other, and also access the Internet. There are three settings to choose from:

Disable: The DHCP server function is turned off. The wireless range extender will not provide IP address information to any of the connected computers or networking devices.

Server: The DHCP server function is activated. Connected networking devices obtain IP address information from the wireless range extender.

Auto: In this mode the wireless range extender activates and deactivates the DHCP server as needed. This is by far the best choice. Even users with experience in networking typically should leave this feature on auto.

4.3.4 Using the wireless schedule function

The Wireless AC750 Dual-Band Range Extender is equipped with an integrated scheduler, which allows activating or deactivating wireless service at specified times. How can this function be used? One example is setting up this device as a wireless access point (see Section 4.3.2) for your children and, perhaps, their friends. You also have a WPA2 secured wireless router in your home providing around-the-clock wireless and Internet access. Of course, you may “neglect” to tell your kids what the password for the wireless router is, and you only tell them the password for the Techly wireless access point. So if they want to connect to the Internet, it has to be done via the Techly device. And that is where the schedule function comes in. The example below illustrates how to set up a schedule that allows wireless access from 6 am to 10 pm from Sunday night to Thursday night, and 6 am to midnight on Friday and Saturday night.

To get started, you need to log in to the Web admin UI of the wireless range extender. See Section 4.1. Next, click “Schedule” for either the 2.4G or the 5 GHz AC radio.



Schedule

Enable Schedule Enabled/Disable

| Enable | Day | From | To |
|-------------------------------------|-----|--------------------|--------------------|
| <input checked="" type="checkbox"/> | Sun | 06 - hour 00 - min | 22 - hour 00 - min |
| <input checked="" type="checkbox"/> | Mon | 00 - hour 00 - min | 22 - hour 00 - min |
| <input checked="" type="checkbox"/> | Tue | 06 - hour 00 - min | 22 - hour 00 - min |
| <input checked="" type="checkbox"/> | Wed | 06 - hour 00 - min | 22 - hour 00 - min |
| <input checked="" type="checkbox"/> | Thu | 06 - hour 00 - min | 22 - hour 00 - min |
| <input checked="" type="checkbox"/> | Fri | 06 - hour 00 - min | 23 - hour 59 - min |
| <input checked="" type="checkbox"/> | Sat | 06 - hour 00 - min | 23 - hour 59 - min |
| <input type="checkbox"/> | Sun | 00 - hour 00 - min | 00 - hour 00 - min |
| <input type="checkbox"/> | Sun | 00 - hour 00 - min | 00 - hour 00 - min |
| <input type="checkbox"/> | Sun | 00 - hour 00 - min | 00 - hour 00 - min |

Click the Enabled/Disabled button to activate the scheduler, then select the day of the week for which you wish to create the first schedule. In our example, that would be “Sun.”

Next, define the time window (from ... to), in which wireless service is available. In our example that would be 06:00 (6 am) to 22:00 (10 pm). Check the enable box to activate this schedule. Repeat the steps for the other days, as shown on the left. Click “Apply” to save the settings.

4.3.5 Changing wireless security

First, you need to log in to the Web admin UI of the wireless range extender. See Section 4.1.



If you want to change the wireless encryption settings, you can easily do that by going to the basic wireless settings. Here you have access to the various encryption methods (WEP, WPA and WPA2), the different cipher types (TKIP or AES) and the wireless key itself, called pre-shared key. For maximum security, we recommend using WPA2 – AES encryption. Activating the less

| | |
|-----------------|--|
| Security Type | WPA/WPA2 PSK |
| WPA encryption | <input checked="" type="checkbox"/> TKIP <input checked="" type="checkbox"/> AES |
| WPA2 encryption | <input checked="" type="checkbox"/> TKIP <input checked="" type="checkbox"/> AES |
| Security key | wireless_password 17 |
| | <input checked="" type="checkbox"/> Unmask |

secure “TKIP” instead of “AES”, or “WPA” instead of “WPA2” should only be done, if older wireless clients experience difficulties connecting to the wireless network. WEP should really only be used if you have legacy equipment so old it won’t even support WPA encryption.

Note: Keep in mind that the Wireless AC750 Dual-Band Range Extender is equipped with two wireless radios, so you need to make sure that both the 2.4 GHz and the 5 GHz (AC) are secured.

4.3.6 Saving and reloading settings

Your Techly Wireless AC750 Dual-Band Range Extender allows you to save the configuration to a file that you can reload at a later time. This can come in handy if you had performed a hardware reset and don’t want to manually re-enter all of the previous settings. To get started, click “Save/Reload Settings.”



You have two choices here. First, you can save all the current settings to a file (click “Save ...”); second, you can load a previously saved file from your computer’s HDD (click “Browse,” select the file, then click “Upload”).

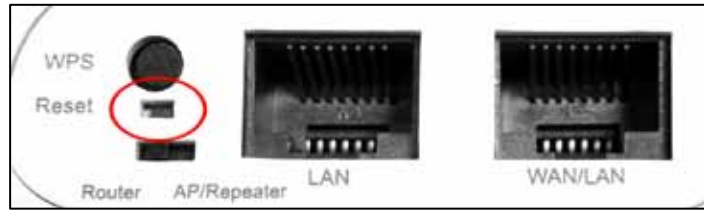
| | |
|---------------|----------------------------|
| Save settings | Save... |
| Load settings | Browse... No file selected |
| | Upload |

4.3.7 Reset the device to factory default settings

If you want to restore the factory default settings, you can do this two ways.

a) Factory reset using the Reset button

The easiest and quickest way is to press the reset button while the wireless range extender is powered on. Press the reset button for 10 seconds using a paper clip, then release. The device will reboot and 30 seconds later the device is set back to factory default values.

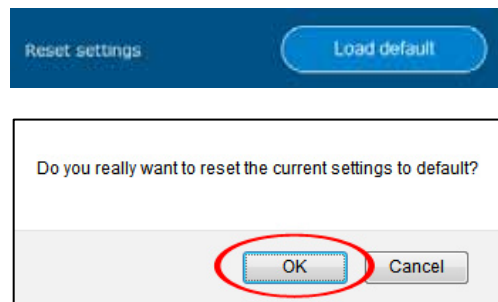


b) Factory reset using administration Web UI

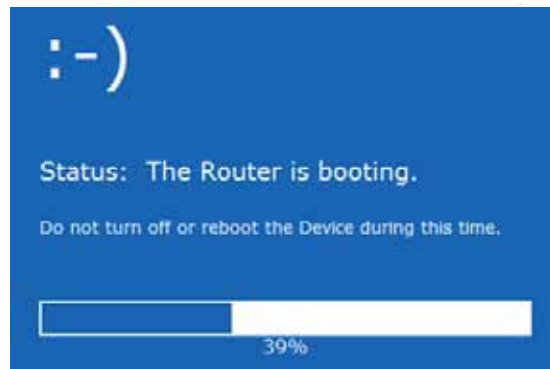
In the administrator interface, click “Save/Reload Settings.”



Next, click “Load default,” then confirm by clicking “OK” to perform the hardware reset.



When you see the message below, the wireless range extender is being reset to factory default values. After the restart is completed, the device be accessible again.

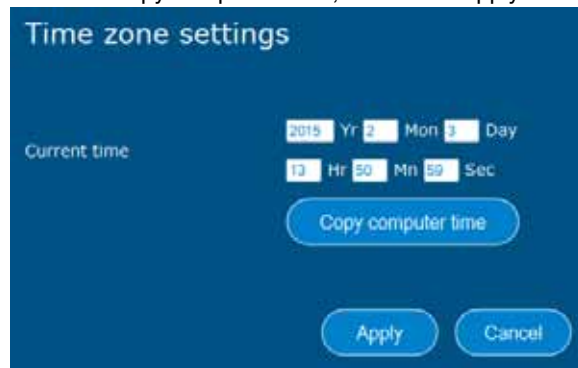


4.3.8 Time Settings

In order to use the schedule function (see Section 4.3.4), you need to make sure that the wireless range extender is set to the correct date and time. It's quite easy to do that. First, click on "Time Zone settings".

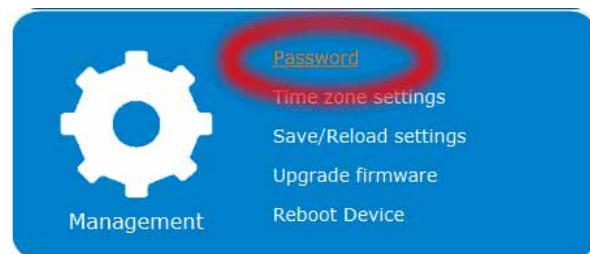


Click on "Copy computer time", then click "Apply."



4.3.9 Changing the administrator password

In order to prevent unauthorized access to the Web admin UI, we recommend that you change the password as soon as possible. To do that, you first need to login to the Web admin UI, then click on "Password."



Type in user name "admin", and then the new password in the field below. Repeat the new password in the third field, and then click "Apply." After this you will need to re-login to the device with the new password.



4.3.10 Upgrade the firmware

From time to time, there may be new firmware available for the Techly Wireless AC750 Dual-Band Range Extender. New firmware can be downloaded from the Techly website (www.techly.com) by searching for the keyword “I-WL-REPEATER5.” If new firmware is available, you can download it right from the Product Details page. Save it on the computer hard drive and unzip the file.

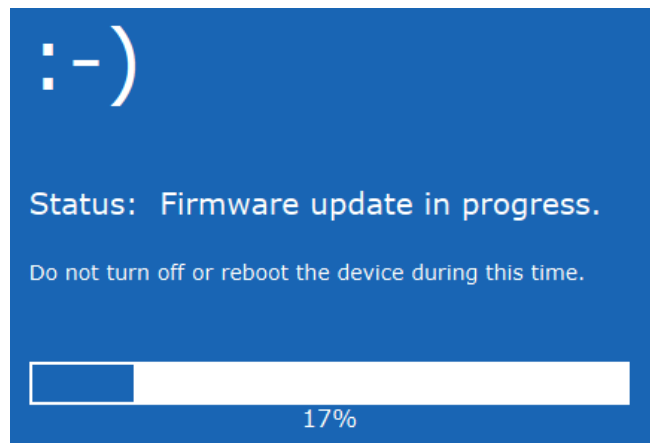
In order to install new firmware, proceed as follows:
After you log in to the Web admin UI, select “Upgrade firmware.”



Click “Browse ...,” then select the file you previously downloaded and uncompressed. Click “Upload” to begin the upgrade process.



A progress bar will slowly fill up as the upgrade takes place. This process must not be interrupted! The device could be damaged beyond repair.



Once the process is complete, you will be redirected to the login page.

5. APPENDIX A: CHANGING THE IP ADDRESS OF A NETWORK ADAPTER

The Techly Wireless AC750 Dual-Band Range Extender HD operates on the IP address 192.168.2.2. For your computer to access the advanced configuration interface, the IP address of the network adapter in your computer has to be in the same range; e.g., 192.168.2.50. Refer to the instructions that came with your computer for information on how to change the IP address on the network adapter in your computer for any operating system that is not explained in this user manual.

5.1 WINDOWS 8

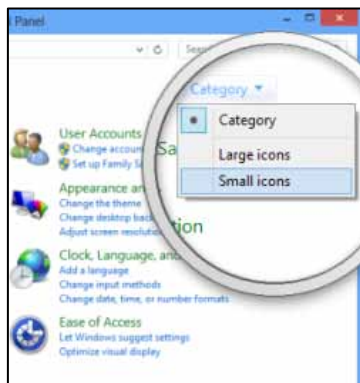
1. If you are using a PC, move the mouse cursor to the bottom or top right corner of the screen and select the cog icon for Settings. If you are using a tablet, swipe left from the right side of the screen and select Settings.



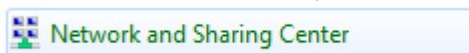
2. Click "Control Panel."



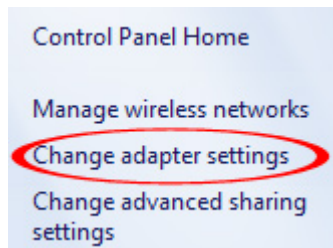
3. Select "Small icons."



4. Open "Network and Sharing Center."

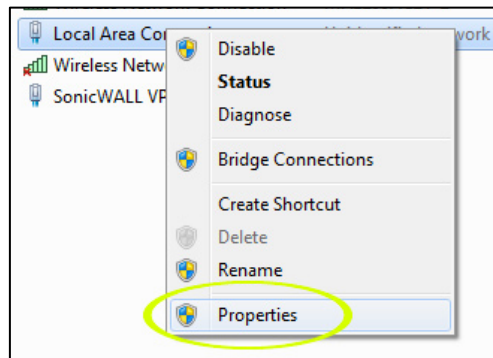


5. Click “Change adapter settings.”

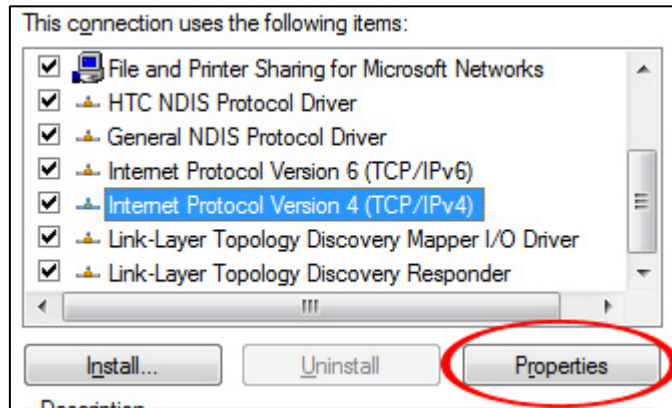


6. Right-click your network adapter and select “Properties.”

7. Select “Internet Protocol Version 4” from the list and click “Properties.”



8. Select “Internet Protocol Version 4” from the list and click “Properties.”

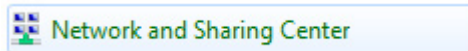


9. Enter the information as shown below, then click “OK” to save the settings.

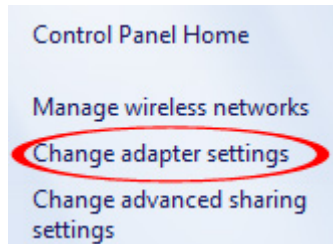
A screenshot of the 'Internet Protocol Version 4 (TCP/IPv4) Properties' dialog box. The 'Use the following IP address:' radio button is selected. The IP address field contains '192 . 168 . 2 . 50'. The Subnet mask field contains '255 . 255 . 255 . 0'. The Default gateway field is empty, showing only the dots for the IP format.

5.2 WINDOWS 7:

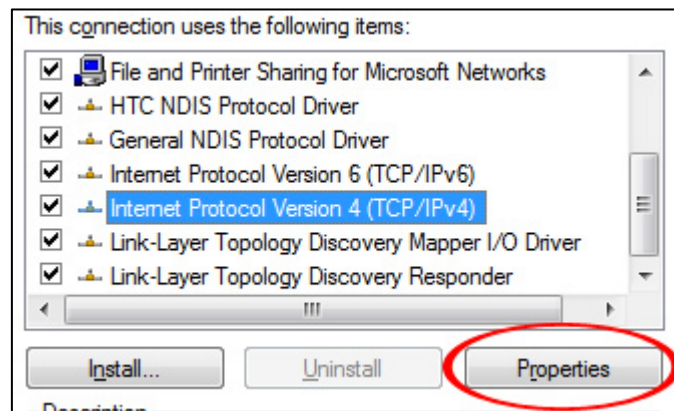
1. Open the Network and Sharing Center.



2. Click on "Change adapter settings."



3. Right-click your network adapter and select "Properties."
4. Select "Internet Protocol Version 4" from the list and click "Properties."

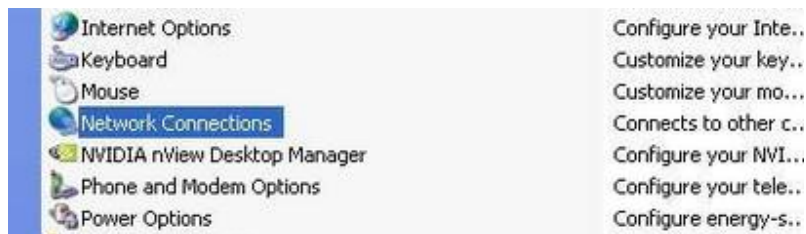


5. Enter the information as shown below, then click "OK" to save the settings.

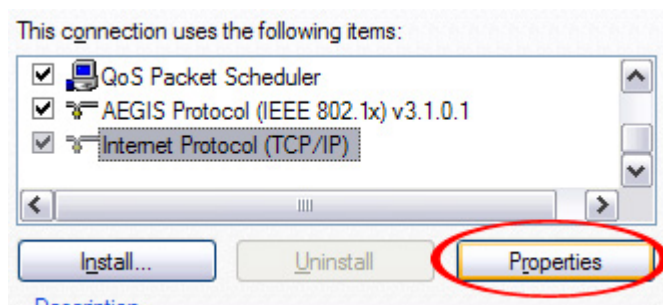
| | |
|--|---------------------|
| <input checked="" type="radio"/> Use the following IP address: | |
| IP address: | 192 . 168 . 2 . 50 |
| Subnet mask: | 255 . 255 . 255 . 0 |
| Default gateway: | . . . |

5.3 WINDOWS XP:

1. Double-click the “Network Connections” icon in the control panel.



2. Right-click the connection (e.g., Local Area Connection) and select “Properties.”
3. Select “Internet Protocol (TCP/IP)” from the list and click “Properties.”



4. Enter the information as shown below, then click “OK” to save the settings.

A screenshot of the 'Internet Protocol (TCP/IP) Properties' dialog box. The 'Use the following IP address:' radio button is selected. The fields are filled with the following values: IP address: 192 . 168 . 2 . 50, Subnet mask: 255 . 255 . 255 . 0, and Default gateway: . . .

5.4 Mac OS X

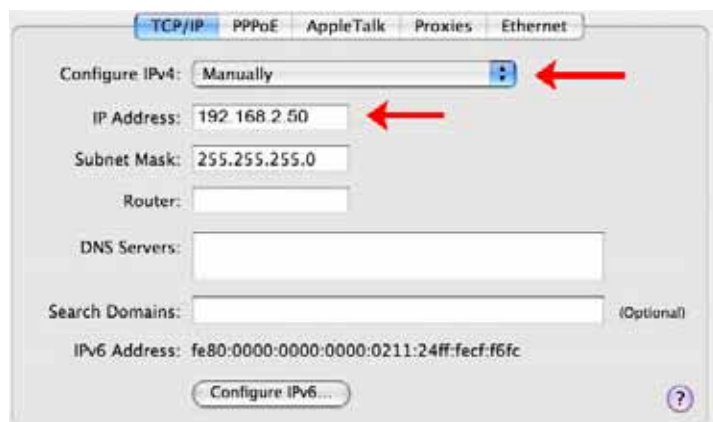
1. Open the System Preferences page.
2. In the Internet & Network section, click the Network icon.



3. Select either Built-in Ethernet or AirPort, depending on how you connect to the wireless range extender, then click "Configure..."



4. Set the value for Configure IPv4 to "Manually" and enter 192.168.2.50 in the IP Address field. Click "Apply Now" (not shown in screen shot) to save the settings.



6. APPENDIX B: TROUBLESHOOTING

| Symptom | How to address |
|--|---|
| The Power LED is not lit. | Make sure that the power switch on the wireless range extender is properly inserted into the power outlet. In addition, check and make sure that the power outlet provides power. |
| The LAN or WAN/LAN LED does not light up. | Check the network connection between the wireless range extender and the Ethernet port of the device you're connecting. The network cable must be inserted properly and the Ethernet device must be turned on. Try using a different network cable, if available. |
| The WiFi/WPS LED is not lit. | <p>The WLAN LED should always light, whether a wireless connection has been established or not. It essentially indicates that the wireless module has started successfully. If the LED is off, it means that the wireless function has been disabled in the wireless settings, either manually or by means of the wireless scheduler.</p> <p>If the wireless function is enabled in the wireless setting, but the LED is off and you cannot connect to any wireless network, the wireless range extender needs to be replaced through your dealer (place of purchase).</p> <p>If the LED is off yet you have a working wireless connection, the LED may simply have failed.</p> |
| The hardware reset is not working. | The WPS button needs to be pressed for 10 seconds while the wireless range extender is powered on. If it still does not work, the reset button could be malfunctioning. |
| My router has a WPS button, but the WPS setup does not work as described in this manual. | WPS may be disabled in the router settings, or you have not pressed the WPS button on the wireless range extender within 120 seconds of pushing the button on the router. Refer to Section 2.2 – “Manual Installation.” |
| I don't know the password of my wireless network and cannot connect the wireless range extender to my network. | If the wireless network is password protected, then you can either connect the wireless range extender via WPS (should your wireless router support it) or manually by entering the wireless passphrase. If you have forgotten the password, there is no way of connecting the wireless range extender to your wireless network. Your only way out is to set up your wireless network with a new password. |
| Can I use the wireless range extender as a wireless router in my network? | Yes, you can. Set the wireless mode selector switch to the “router” position, and then wait for about 60 seconds. Note that the router functionality of this device is basic. It lacks many features that a full size router typically supports, e.g., virtual servers, DMZ, DDNS, among others. |
| The signal strength on my wireless adapter is high, but the wireless speed isn't very good. | The signal strength between the wireless range extender and the home wireless network may be too weak to create a reliable wireless connection. Try re-locating the wireless range extender closer to the wireless router in your home. |
| I experience more lag when playing online games compared to before, when my gaming console was connected with a network cable. | <p>It is not out of the ordinary for ping times to increase ever so slightly when you switch from a wired to a wireless connection. The effects become more pronounced if the wireless connection is poor.</p> <p>Typically, though, online gaming will not be affected in a negative way. If you require the best possible ping times and lowest possible lag without any compromises, then a wireless connection for your gaming console may not be the right choice for you. A 500 Mbps Powerline AV starter kit may serve you better in this case.</p> |

7. APPENDIX C: SPECIFICATIONS

Standards

- IEEE 802.11b (11 Mbps Wireless LAN)
- IEEE 802.11g (54 Mbps Wireless LAN)
- IEEE 802.11ac (433 Mbps Wireless LAN)
- IEEE 802.11b (11 Mbps Wireless LAN)
- IEEE 802.11g (54 Mbps Wireless LAN)
- IEEE 802.11n (300 Mbps Wireless LAN)

General

- LAN port : 10/100 Mbps RJ45 connector
- WAN port: 10/100 Mbps RJ45 connector
- WPS/Reset button
- Operation mode selector:
 - AP/Repeater
 - Router
- Flash memory: 16 MB
- SDRAM: 128MB
- Certifications: FCC Class B, CE, RoHS

Wireless

- Wireless 5.0 GHz link speed: up to 433 Mbps
- Wireless 2.4 GHz link speed: up to 300 Mbps
- Wireless security:
 - WEP encryption (64/128 bit)
 - WPA TKIP
 - WPA2 AES
 - WPA2 mixed

LEDs

- Power
- LAN
- LAN/WAN
- WiFi/WPS

Power

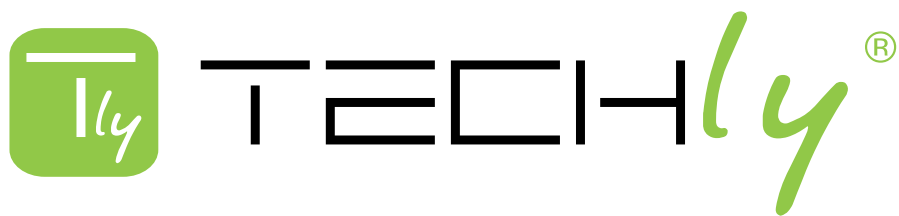
- Internal 110 – 230 V AC, 50 – 60 Hz
- Power consumption: 3.3 watts max.

Environmental

- Dimensions: 78.0 (L) x 62.3 (W) x 60 (H) mm (3.1 x 2.45 x 2.36 in.)
- Weight: 0.24 kg (0.52 lb.)

Package Contents

- Wireless AC750 Dual-Band Range Extender
- Quick install guide
- Installation CD
- Ethernet Cat5 RJ45 cable: 1.0 m (3 ft.)



www.techly.com