

# About Modem and Router

Today, the concept of Modem and Router is no stranger to each of us. It exists anywhere with an Internet connection from family to office. But there will probably be many people who cannot distinguish the differences between them. Let's TipsMake.com find out.

Today, the concept of Modem and Router is no stranger to each of us. It exists anywhere with an Internet connection from family to office. But there will probably be many people who cannot distinguish the differences between them. Let's TipsMake.com find out.

## 1- Concept and function of Router

Understandably, routers are routers or routers used to transfer data packets over a network to the terminals, through a process called routing. Routing occurs on the 3rd floor in the 7-tier OSI model.

But to understand, the router is a device for sharing the Internet to many other devices in the same network layer. A typical router today is a wireless router that broadcasts Wi-Fi ( *some places are called access points or APs* ). Currently, wireless routers are often equipped with one or more antennas known to users as "antennae" that allow them to adjust to improve the direction of the wave.



This device allows creating a Wi-Fi network for use with many other devices. In addition, the router usually has quite a lot of Ethernet ports ( *also called LAN ports* ) that allows users to be able to connect with many other devices via cable connection ( *wired or wired network* ).

The router receives Internet data from a modem and each router has a unique public IP address on the Internet. Servers on the Internet will connect to the router via modem and this device is responsible for routing traffic to other devices on the network.

However, only for a router ( *not 2-in-1* ), you can hardly connect to the Internet. The router will only be able to connect to the Internet by connecting a dedicated Ethernet cable to a modem.

## 2- Definition of Modem

If the router is a child, the modem is the mother. Without a modem, the router only performs the function of setting up the internal network, not the international Internet connection.

Modem is a device that communicates with the network of Internet service providers (ISPs). Through a coaxial cable or fiber optic cable from Internet-provided stations connected to your home, the modem will act as a transfer for data packets provided by the ISP to an Internet connection for the router or linked devices. other network. Meanwhile, the DSL modem ( *dial-up form* ) connects directly to the phone line.



According to Wikipedia, the modem ( *modulator and demodulator* ) is a device that converts analog (analog) signals into digital (digital) signals and vice versa. Modems mainly used are coaxial cable modems, ADSL and fiber optic cables.

Modems used to exploit Internet services of ISPs must be correct ( *DSL, copper or optical* ) to be able to run with the ISP provided. In addition, the modem also connects the output Ethernet to allow the transmission of Internet ( *decoded digital signal* ) to any single router or computer in the "back".

## 3- The device also includes Modem and Router

Some ISPs offer a 2-in-1 device, a combination of **Modem** and **Router** . It performs both the conversion of analog signals into numbers as well as internal network routing. Its full name is **Modem Router** , but in Vietnam, most people call (but wrongly meaning) the modem.

If you can make such **Modem Routers** , why do manufacturers still make separate modems or routers for what?

This is because first of all, each type of **modem** can only be used with a single Internet infrastructure ( *or DSL or optical* ). If you want to switch to an optical cable, the old Modem ( *or old router modem* ) will not work with the new line, forcing you to purchase a new Modem to use. Meanwhile, the old router can still be reused and you do not need to reconfigure network information on smartphones or computers for what. Simply put, your old Wi-Fi network is still the same, the password remains the same. You just need to configure the new Modem and keep plugging in and running (plug and play).



In addition, for companies, businesses, for security reasons or for sharing bandwidth, sometimes they need to set up multiple private intranets ( *with dedicated visitor network, yes The network is for employees to use, only for the director* . ). Separate Router and Modem is very beneficial in this case. Also, if too many terminals (laptop, smartphone, tablet .), usually a modem will not be able to handle the load and the job will be more suitable for routers / switches. In addition, for companies with multiple levels of office space or a large distribution area, having multiple wireless routers will help "coverage" more evenly.

Finally, the cost and upgrade costs. There are still Modem Routers that incorporate all of the above features but are quite expensive. And it's also not convenient to upgrade if you already have a **802.11n** Wi-Fi Router, but you want **802.11ac** . Buying an additional router that supports **802.11ac** and attaching it to the Modem Router is available "more economically" than buying the Modem Router better than the old one.

So you can summarize, to access Internet news, videos . first you need a Modem. The router is the next option if you want to expand the Internet access range for many devices. Whether or not to use the Modem Router depends on your needs.

1. Log in and configure the Router
2. 5 ways to expand the range of Wi-Fi networks
3. Learn basic functions of network devices

### Having fun!

You finished reading the article "**About Modem and Router**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.