

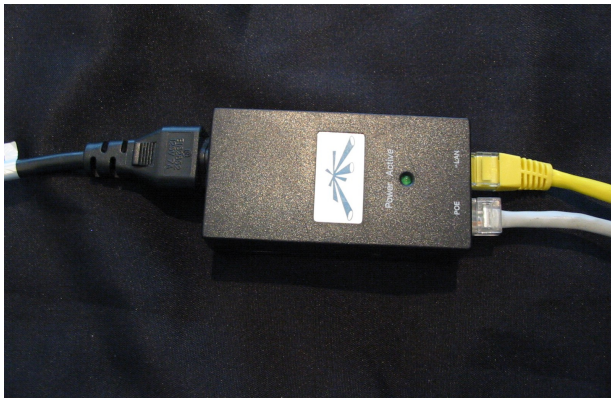
Using a WiFi Router for Indoor Connectivity – Separate Subnet

Introduction

It is possible to add an auxiliary WiFi Router to your AyrMesh network to provide both wired (Ethernet) and wireless (WiFi) connections indoors on a different IP subnet from your main router. This method has the advantages of being easy to configure, and it allows you to use all the ports on the auxiliary router. The disadvantage is that, since it creates a different subnet from your main router, you may not be able to access devices (e.g. printers, shared directories on computers or file storage devices, IP cameras, etc.) on your main network. If you are extending your network to one of your own buildings (e.g. an office or workshop), this may not work well for you. On the other hand, if you are extending your network to a friend or relative's house, this may actually be a desirable way to configure the network.

Set up your AyrMesh Remote Hub or Receiver outdoors

The first step is to ensure that you have a working outdoor connection, using either an AyrMesh Remote Hub or an AyrMesh Receiver, with the Power Supply indoor (where it is kept dry).



Make sure that you can plug a computer into the LAN port on the Power supply and access the Internet on that computer.



Configure the auxiliary router

In order to configure the auxiliary router, you will need to know the IP “subnet” of your main router. This is easy – it's just the first three numbers in the addresses of

devices connected to your router (the fourth number is the actual address). It will be of one of the following patterns:

- 10.x.y.z
- 176.x.y.z (where x is between 16 and 31, inclusive)
- 192.168.x.y

You can see the pattern in the IP addresses your router is using by examining your AyrMesh.com account; in this example, you can see that my router is using the 10.0.0.x subnet:

Type of Device	IP address	Name (Click to Edit)	MAC address	Last Checkin	Device Actions:
Gateway Hub Details	10.0.0.59	Unnamed	00:19:3B:80:6F:DF	09/04/2015 5:11 PM	
Gateway Hub Details	10.0.0.205	Unnamed	00:15:6D:9E:FB:2D	04/15/2015 9:42 AM	

Now, to configure your auxiliary router, connect your computer to it (preferably with an Ethernet cable, but via WiFi will work, too) and configure it as shown here:

1. Internet (or WAN) setup should be set to “DHCP”
2. LAN (or Network) setup should be configured to a DIFFERENT subnet from your main router. If your main router is “192.168.0.x” (or something completely different like 10.0.0.x) then you can use “192.168.1.1” for the Local IP Address; if your main router is set to 192.168.1.x, use “192.168.2.1” for the Local IP Address.
3. Make sure the DHCP server is Enabled.
4. For the starting address of the DHCP pool, you will use the same first three digits as you used for the Local IP address (192.168.1 in the example) Make the starting address of the DHCP pool end with 50 and make the end address 254 (or 204 addresses).
5. Leave the client lease time at the default. You shouldn't need to fill in the DNS addresses, but, if you do, use the Google free DNS addresses 8.8.8.8 and 8.8.4.4.
6. Save the configuration and then run a cable from the LAN port of your AyrMesh Remote Hub, Receiver, or Remote Bridge radio to the Internet port of the auxiliary router.

The screenshot shows the Linksys WRT54GS router configuration interface. The 'Setup' tab is selected, and the 'Internet Setup' section is active. The 'Internet Connection Type' is set to 'Automatic Configuration - DHCP'. The 'Router Name' is 'WRT54GS'. The 'Local IP Address' is '192.168.1.1' and the 'Subnet Mask' is '255.255.255.0'. The 'DHCP Server' is enabled. The 'Starting IP Address' is '192.168.1.50' and the 'Maximum Number of DHCP Users' is '204'. The 'Client Lease Time' is '300' minutes. The 'Static DNS 1' and 'Static DNS 2' fields are set to '8.8.8.8' and '8.8.4.4' respectively. The 'Network Setup' section is also visible, showing the 'Router IP' as '192.168.1.1'.

(NOTE: the auxiliary router will now be configurable at the address you have given it as the local IP address; if you typed “<http://192.168.0.1>” to access it for configuration and you have changed it to 192.168.1.1, you will need to type <http://192.168.1.1> to access it again.)

The auxiliary router should show up as a client device on your main router with an address on its network (e.g. 10.0.0.x), and devices connected to it should have IP addresses of the type you set up in the network settings (e.g. 192.168.1.x).

If you want to set up additional auxiliary routers at different locations, set them up the same way, but add 1 to the third number of the Local IP Address. For instance, I set the first one up here with “192.168.1.1,” so I'd set the next one up as “192.168.2.1” and a third one up as “192.168.3.1.”